THE ENGINEERING AND MINING JOURNAL.

VOL. XVIII.—No. 6. NEW YORK, SATURDAY, AUGUST 8, 1874. PRICE 10 CENTS PER COPY.

Method of Determining the Horizontal Section of a Blast Furnace.*

By FRANK FIRMSTONE, Glendon Iron Works, Pa.

IT is often desirable to obtain one or more accurate horizontal sections of a blast furnace, after blowing out. Wishing to do this, last April, in the case of No. 4 furnace at Glendon, which had worn in a very remarkable manner, the method described below was employed, with very good results.

A scaffold was fixed in the furnace, and on it was placed a drawing-board, covered with paper, the top of which was made level at exactly the height at which the section was to be taken. (Fig, 1.)

The center of the furnace (which had previously been found, and marked on a plank across the top) was laid off on it by dropping a plumb-bob from above, and a strong needle was driven into the board in this center. By means of a straight-edge and two plumb-bobs, the line passing through the centers of the front and back arches was also drawn on the board.

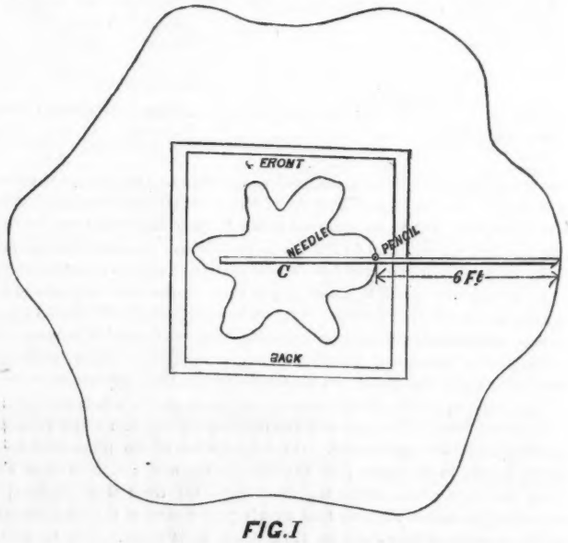

FIG. I

A pencil was fastened to a light wooden straight-edge at a known distance (marked 6 ft. in Fig. 1) from one end, which was cut off obliquely, as shown, to form a tracing point. A notch was cut in the side of the straight-edge, at the 6 ft. mark, to bring the point of the pencil into line with the true side, and to help keep it in place,

By carrying the bevelled end of the straight-edge around, and in contact with the walls of the furnace, and keeping the true side always against the needle, a curve was traced on the paper which gave the exact distance from the center of the furnace to any point in the wall at the plane of section ; for it is evident that if we draw any line passing through the center, C, 3 (Fig. 2) for instance, the distance from the center to the circumference on that line is equal to the fixed distance on the straight-edge, plus the portion of the line included between the center and the curve on the "measurement sheet."

To make the drawing, lines are drawn by means of a protractor through the center of the measurement sheet, by preference making equal angles with one another (0, 1, 2, 3, 4, 5, 6, 7, Fig. 2), and the distances cut off on them from the center to the curve are measured and written down on them. Having selected the scale, draw a circle whose radius, to scale, is the fixed distance on the rod= in this case 6 ft. (Fig. 3), and draw radii with the protractor corresponding to those drawn on the measurement sheet. We have now only to lay off, to scale, on each radius (in Fig. 3) from the circumference of the circle, the distances previously found for it and written on the measurement sheet, and to draw a line through the points thus found. It is important to have points, such as E (Fig. 1 and 2) at which the distance from the center is a maximum or minimum, fixed with precision. To do this, draw a circle on the measurement sheet with the same radius as the circle Fig. 3 ; draw a radius through the points to be found, and measure the distance cut off on it by the measurement curve. This radius is easily laid off on Fig. 3 by taking the distance from its intersection with the circle to the intersection of any other radius with the circle in the dividers, and laying it off with the circle in Fig. 3.

The number of radii drawn depends, of course, on the number of points required to be exactly determined in the drawing ; to avoid confusion, only eight are drawn in Fig. 2 and 3. In sketching the line through the points, determined as above, the measurement sheet should be before the eyes, as it will assist in giving the line the proper directions between the known points.

Points are well determined, even when the radius intersects the curve on the measurement very obliquely, as No. 1, Fig. 2 ; for distances measured on the sheet are *full size*, and any error in them is not magnified, but reduced on the drawing.

The center of the furnace and a line passing through the front and back arch being known, on the drawing, it is easy to project the tuyeres or any other part of the furnace on it.

The distance laid off on the straight-edge should be less than the least distance from the center to the wall of the furnace ; for if it be greater, the curve on the measurement sheet will form loops passing through the center, wherever the distance to the wall is less than the distance on the rod, which may intersect one another or other parts of the curve, and confuse the measurement sheet very much. Of course all distances on the sheet corresponding to such loops will be negative and must be deducted from the distance on the rod.

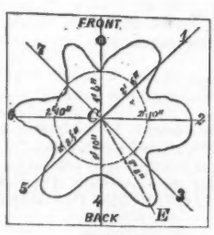

FIG. II

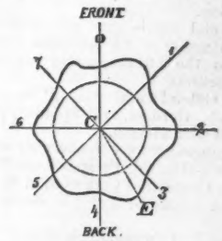

FIG III

A spring pencil holder screwed to the rod would be a great improvement, as it would leave both hands free to guide the rod and keep it against the needle, while an assistant carries the point around the furnace.

*A paper read before the American Institute of Mining Engineers at the St. Louis Meeting, May 28, 1874.

International Exhibition, 1876, Philadelphia.

The Exhibition will be held at Fairmount Park, in the city of Philadelphia, and will be opened on the 19th day of April, 1876, and closed on the 19th of October following.

The ten departments of the classification which will determine the relative location of articles in the Exhibition—except in such collective exhibitions as may receive special sanction—and also the arrangement of names in the Catalogue, as follows :

I. *Raw Materials—Mineral, Vegetable, and Animal.*
II. *Materials and Manufactures used for Food, or in the Arts, the result of Extractive or Combining Processes.*
III. *Textile and Felted Fabrics ; Apparel, Costumes, and Ornaments for the Person.*
IV. *Furniture and Manufactures of general use in construction and in dwellings.*
V. *Tools, Implements, Machines, and Processes.*
VI. *Motors and Transportation*
VII. *Apparatus and Methods for the increase and diffusion of knowledge.*
VIII. *Engineering, Public Works, Architecture, etc.*
IX. *Plastic and Graphic Arts.*
X. *Objects for illustrating efforts for the improvement of the Physical, Intellectual, and Moral Condition of Man.*

Applications for space and negotiations relative thereto should be addressed to the Director-General, International Exhibition, Philadelphia, Penn.

Exhibitors will not be charged for space.

A limited quantity of steam and water-power will be supplied gratuitously. The quantity of each will be settled definitely at the time of the allotments of

space. Any power required by the exhibitor in excess of that allowed will be furnished by the Commission at a fixed price. Demands for such excess of power must also be settled at the time of the allotment of space.

Exhibitors must provide, at their own cost, all show-cases, shelving, counters, fittings, etc., which they may require; and all countershafts, with their pulleys, belting, etc., for the transmission of power from the main shafts in the Machinery Hall. All arrangements of articles and decorations must be in conformity with the general plan adopted by the Director-General.

Special constructions of any kind, whether in the buildings or grounds, can only be made upon the written approval of the Director-General.

The Commission will take precautions for the safe preservation of all objects in the Exhibition; but it will in no way be responsible for damage or loss of any kind, or for accidents by fire or otherwise, however originating.

Favorable facilities will be arranged by which exhibitors may insure their own goods.

Exhibitors may employ watchmen of their own choice to guard their goods during the hours the Exhibition is open to the public. Appointments of such watchmen will be subject to the approval of the Director-General.

Exhibitors, or such agents as they may designate, shall be responsible for the receiving, unpacking, and arrangement of objects, as well as for their removal at the close of the Exhibition.

The transportation, receiving, unpacking, and arranging of the products for exhibition will be at the expense of the exhibitor.

The installation of heavy articles requiring foundations should, by special agreement, begin as soon as the progress of the work upon the buildings will permit. The general reception of articles at the Exhibition Buildings will commence on January 1, 1876, and no articles will be admitted after March 31, 1876.

Space not occupied on the 1st of April, 1876, will revert to the Director-General for re-assignment.

If products are not intended for competition, it must be so stated by the exhibitor; and they will be excluded from the examination by the International Juries.

If no authorized person is at hand to receive goods on their arrival at the Exhibition building, they will be removed without delay, and stored at the cost and risk of whomsoever it may concern.

Articles that are in any way dangerous or offensive, also patent medicines, nostrums, and empirical preparations whose ingredients are concealed, will not be admitted to the Exhibition.

The removal of goods will not be permitted prior to the close of the Exhibition.

Sketches, drawings, photographs, or other reproductions of articles exhibited, will only be allowed upon the joint assent of the exhibitor and the Director-General; but views of portions of the building may be made upon the Director-General's sanction.

Immediately after the close of the Exhibition, exhibitors shall remove their effects, and complete such removal before December 31, 1876. Goods then remaining will be removed by the Director-General and sold for expenses, or otherwise disposed of under the direction of the Commission.

Each person who becomes an exhibitor thereby acknowledges and undertakes to keep the rules and regulations established for the government of the Exhibition.

Special regulations will be issued concerning the exhibition of fine arts, the organization of international juries, awards of prizes, the sale of special articles within the buildings, and on other points not touched in these preliminary instructions.

An Official Catalogue will be published in four distinct versions—viz: English, French, German, and Spanish. The sale of Catalogues is reserved to the Centennial Commission.

Communications concerning the Exhibition should be addressed to "The Director-General, International Exhibition, 1876, Philadelphia, Penn."

The Centennial Commission reserves the right to explain or amend these regulations, whenever it may be deemed necessary for the interests of the Exhibition.

A. T. GOSHORN, *Director-General.*

JOHN L. CAMPBELL, *Secretary.*

Borax Deposits in California—An Interesting Discovery.

MR. ARTHUR ROBOTTOM, who has just returned from a trip in the southern part of California, where he went to explore for borax, brings news of an interesting and valuable discovery. Beyond the Sierra Nevada, in the Enclosed Basin of North America, about one hundred and forty miles in a northeastern direction from Bakersfield, there is a bed of a dry lake filled over an area of fifteen miles long by six wide, with saline crystals to a depth of six or eight feet The appearance of the surrounding country clearly indicates that water once stood sixty feet deep here, over a large area, the ancient beach being distinctly traceable. The most remarkable fact about this saline depot is, that in its middle there is a tract of five miles long and two wide, of common salt, while on the outside there is a deposit of borate of soda three feet thick, and under this a lower stratum composed of sulphate of soda and tincal mixed together from one foot to three feet thick. These minerals are all in crystals, the sulphate of soda and tincal forming a solid mass, almost like stone in its hardness. The borate of soda is of a dirty hue, but the salt, which lies above the level of the entire deposit, in some places to a depth of seven feet, is white as snow.

The report of natural deposits thus situated will appear very improbable to scientific men, for there is nothing to account for the separation of the salt from the borates, or for the accumulation of salt above the level of other crystalline deposits. We have Mr. ROBOTTOM for authority, and the country is open to those who wish to examine for themselves. The place can easily be found. It is known as the Borax Fields in the Slate Range, and will be examined carefully by many competent men, since the tincal—a crude borate of soda—is a valuable mineral, and can be separated, at little expense, from the sulphate of soda. Mr. ROBOTTOM brought samples of the minerals along, and has shipped some of the tincal to England, believing that it can be obtained at less price than from Thibet, of equal quality. It is the most valuable borate mineral yet found on our coast, preferable for shipment, to any of the borates obtained in Nevada, where the deposits are mainly borates of lime and soda. The California tincal can probably be used without refining, for glazing fine pottery, and if so, it may drive the Thibetan tincal out of the market. Other shipments of it have also been made by others. Only time can determine which of California, Nevada, Thibet, Tuscany, Peru, and Chili—the principal producers of borax—can undersell the other. Tincal has not yet been found in Nevada, but it probably exists in several of the dry lake beds in the southeastern part of this State. The deposits of borate of lime and borate of soda are numerous.—*San Francisco Alta.*

British Exports.

WE extract from the British Board of Trade returns the following statistics, showing the exportations of Coal, Iron, &c., for the six months ending June 30, 1874, compared with the corresponding periods of 1872 and 1873, respectively.

	1872.	1873.	1874.
COAL, COKE, CINDERS AND MANUFACT'D FUEL.	Tons.	Tons.	Tons.
Russia	404,486	349,559	354,206
Germany	924,675	702,812	881,758
France	1,220,078	1,172,332	1,117,601
All other countries	3,896,841	3,794,207	3,817,961
Total	6.446,080	6,018,910	6,171,526
IRON AND STEEL—PIG AND PUDDLED IRON.			
United States	119,178	63,183	26,760
Germany	143,578	146,743	61,820
France	55 074	52,353	26,983
All other countries	359.554	372,466	204,335
Total	677,384	634.745	319,898
RAILROAD IRON OF ALL KINDS.			
United States	259,011	120,468	64,969
Russia	21,064	47,780	74 460
British North America	28,294	29,774	28,710
All other countries	139,673	149.735	259,128
Total	448,042	347,757	427,267
BAR, ANGLE, BOLT AND ROD IRON.			
United States	30,048	20,535	3,193
All other countries	122,504	129,770	111,292
Total	160,552	150,305	114,485
TIN PLATES.			
United States	48,869	49,645	49,717
All other countries	14,530	17.198	13,817
Total	63,399	66,843	63,534

The above figures are very suggestive, showing as they do, at a glance, the amount of our importations of iron from Great Britain, as compared with those of other countries. It will be observed in the table of Railroad Iron, for instance, that for the first six months of 1872 our importations were more than 50 per cent. of all the railroad iron exported from Great Britain; for the corresponding period of 1873, our imports fell off to about 33 per cent. of the total exportation, while for the six months ending June 30, 1874, we have imported but about 15 per cent. of the total amount of railroad iron exported from the United Kingdom. While, no doubt, part of this great falling off may be attributed to the check given to railroad building by the panic, yet undoubtedly the most prominent cause is our gradual growing up to the point when we can stock our railroads and iron yards with home products. The same relative decrease of our iron imports is observable in all of the items enumerated. Our importation of tin plates follows almost a contrary course to the above; for example, in the first six months of 1872, we absorbed over 75 per cent. of the tin plates exported from Great Britain; in the corresponding period of 1873, we took nearly 75 per cent. of the total exports, and for the six months ending June 30, 1874, nearly 80 per cent. of the tin plates sent from Great Britain has come to this country.

The Classification and Heating Power of Coals.

Translated from the French of M. L. GRUNER, by R. P. ROTHWELL, Mining Engineer.

(CONTINUED FROM PAGE 51.)

Let us now pass from these generalities to the special study of the five types, commencing with that which approaches most nearly the lignites.

I. Long-flaming Dry Coals.

This type is specially characterized by the nature of the coke. When we distill coal in lumps, the pieces crack open but maintain their form; there is neither fusion nor caking, and when we use pulverized coal the coke remains pulverulent, hence the German name "*sandcoal.*"

The lean coals of the fifth class yield also a coke which shows neither change of form nor agglomeration, but the two classes are easily distinguished, for the dry coals leave as a maximum 60 per cent. of coke, and burn always with a long smoky flame, while the lean coals yield at least 80 per cent. of coke, and burn with a short bright flame. The former approach the dry lignites, and the latter the anthracites.

The dry coals, like the dry lignites, are usually hard, compact, and not very friable, though they have but a small specific gravity (1.25). The weight of a cubic meter is 700 kilos.; the fracture is smooth or conchoidal, more or less splintery, hence the English name *splint coal.* The color is rarely jet black, and in all cases the streak is brown. As their name indicates these coals burn with an abundant flame and smoke; they are, in a word, *flaming* coals.

The mean elementary composition of dry coals may be taken as:

Fixed carbon	75 to 80
Hydrogen	5.5 " 4.5
Oxygen	19.5 " 15.5
	100

Or the ratio $\frac{O+Az}{H}$ is between 4 and 3

Their proximate composition is:*

Non-caking coke	50 @ 60	
Ammoniacal water	12 " 5	Volatile matter 50@40.
Bitumen	18 " 15	
Gas	20 " 20	
	100	

From the tests of SCHEURER-KESTNER and CH. MEUNIER, the heating power of long-flaming dry coals, after deducting the ash, averages 8200 to 8300 calorics. But certain bituminous coals, more nearly approaching the lignites, should yield a maximum of 8000 calorics; and, on the other hand, the coals approximating the fat coals should attain 8500 calorics.

Very dry coals are uncommon in France. We can mention only those of Noroy, from the "marnes irisé s" of the Vosges. In the Carboniferous measures, the coals which come the nearest give a slightly glassy coke; they form the intermediate step to the *long-flaming fat coals;* such, for example, are the coals from the upper beds of Blanzy and Montceau (Saône-et-Loire), analyzed by REGNAULT and SCHEURER-KESTNER, and the coals from the upper portions of the Saint-Eloé basin in the Puy-de-Dôme.

In Germany, dry coals are found especially in the higher portion of the Upper Silesian basin, also at Saarbrück; but there, and in the Lower Silesia, the slightly caking coals (Sinter Kohlen) are mostly found; they change into fat coals like those of Blanzy.

In the United Kingdom, the dry coals are furnished by Scotland, Derbyshire and Staffordshire, where they are used, especially in Scotland, raw in the blast furnace. In the lower portions of these same basins we come gradually, as in Germany, to the semi-fat coals, giving a more or less glassy coke. The following are analyses of this first class:

Origin of Coals.	Composition of coals after deducting ashes.			Volatile matter in the pure coal free from ash.	Nature and aspect of Coke.	Remarks.
	C	H	O+Az			
Mean composition of 11 beds of Upper Silesia	78.87	5.14	15.09	..	Pulverulent or slightly glassy.	Analysis of Dr. HEINTZ in Dr. M. BRIX's work.
Mean composition of 3 beds of the König Louise mine, Upper Silesia.	80.39	5.16	14.45	..	Glassy.	From the same work. The coal changes to fat coal.
Coal from Hartley, Newcastle.	79.54	5.63	14.83	39.05	Glassy.	Coal analyzed by H. de MARSILLY.
Dry coal from Louisenthal, Saarbrück.	76.87	4.68	18.45	41.00	Pulverulent	Analysis of M. M. SCHEURER-K.
Mean composition of the Upper beds of Saarbrück.	75.75	4.87	19.38	41.9	Pulverulent	Analysis of M. GASCH. of Saarbrück. (1)
Very hard coal from the Louisa mine, Upper Silesia.	74.16	5.57	20.27	..	id.	Analysis of Dr. HEINTZ.
Mean of 4 benches of the great bed of South Staffordshire.	78.00	4 79	17.21	..	id.	From Percy's *Metallurgy.*
Blanzy coal, similar to the Montceau coal	78 26	5.35	16.39	43.00	Slightly glassy.	Analysis of M. REGNAULT.
Scotch splint coal, the limit of the fat coals, mean of 3 beds.	80.98	5.42	13.60	..	Glassy.	Percy's *Metallurgy.*
Mean of the Upper series of Saarbrück.	75.75	4.87	19.38	45.51	Pulverulent	Analysis by M. GASCH. Engineer of the Saarbrück gas works

(1) Memoire sur les houilles de Saarbruk par M. GASCH, in *Preussische Zeitschrift*, vol. XVI.

This table shows that coals commence to cake when the proportion of carbon attains 80 per cent. and when the oxygen falls below 15 per cent. This limiting proportion of 80 of carbon and 15 of oxygen and nitrogen, corresponds accordingly to slightly caking coal (Sinter Kohlen), which forms the connecting link between the dry and the fat coals. These limiting coals give in calcination 40 to 41 per cent. of volatile matter.

We may here note, as a special variety of long-flaming dry coal, the coal called *fusain mineral* in France and *Russ-Kohle* (having the appearance of soot) in Germany. The *fusain mineral* is a soft friable substance, of a dull black color, and having the appearance and fibrous structure of carbonized wood. In France, this fusain is never found in true beds; it forms veins of a few millimetres in thickness, between the benches of coal beds. And they are found generally only in the upper coal measures. In Saxony, this *fusain* is much more common and characterizes certain beds by its abundance.

TO BE CONTINUED. 114

* The proximate compositions of the different types is taken from Prof. GRUNER's work on the coals of the Loire basin, *Annales des Mines*, 5e série, t. II.

Notes.

Instruments for the State Survey of Pennsylvania.—Messrs. HELLER & BRIGHTLY, the well known instrument manufacturers of Philadelphia, are making a new odometer, on a design by Prof. LESLEY, for use in the Pennsylvania Geological Survey. It is said that the new idea "takes the odometer from its present position as a crude approximator, and ranks it as a valuable field instrument." Messrs. H. & B. have received orders for all the instruments (some forty in number) for the State Survey. The acknowledged excellence of their work justified the favor of the State Geologist.

The Great Gun.—The manufacture of the 80-ton gun, which is to be the next marvel produced at the Royal Gun Factories, Woolwich, excites considerable interest in the Department, the gun being more than twice the size of any at present in existence in this (Eng.) or any other country. The steel block from which the inner tube or lining is to be made arrived on Tuesday from the works of Messrs. FIRTH at Sheffield, and is supposed to be the largest piece of steel ever produced. It is 25 feet in length and 25 inches in diameter at the thickest end, but it is tapered off towards the muzzle, where the strain of the explosion diminishes. Its weight is about 12 tons. It will be taken into the turnery, where a couple of large lathes will be employed to smooth its outer surface, and it will then be bored out in the boring mills. The cascable arrived from the same firm on Saturday, and the trunnion piece has been manufactured in the Royal Gun factories, and weighs 18 tons, the largest forging the arsenal has produced.

Cuban Coal Trade.—This trade continues to increase, notwithstanding the high duty, the high port charges and war tax levied on coal, and the great depreciation of the Cuban currency. The Cuban duty is 61 4-5th cents gold per ton, and 25 per cent. added as a war tax. Vessels carrying their registered tonnage of coal are exempt from port dues; but if the vessel enters with less than that amount, she pays 73 cents per ton, up to the number of tons of coal she has, and $1.35 per ton on the excess of her registered tonnage over her coal cargo. The imports of coal into Havanna from January 1 to July 1, 1874, were:

From America..... 66,289 tons.
" Europe..... 68,632 "

Freight from New York and Baltimore to Havanna or Santiago, $4.00 gold, to 5.00 and 5.50 American currency.

No coal is sent to Cuba except on order, as coal sent there on the market is invariably "slaughtered."

Relation of Science and Religion.—Now, if the scientist confines himself to the correlation of physical facts, he cannot encroach upon the domain of religion, which is devoted to supernatural beliefs and hopes; yet a sceptical religionist is always craving for some physical facts to strengthen his faith, and the superstitious scientist is always afraid of meeting with miracles. How utterly both are mistaken! No amount of wonders would impart faith to a soul already filled with doubt; nor would the scientist have the least alarm on the subject of miracles and cataclysms if he understood truly the finite and the infinite, the Creator and the creation, the reign of eternal and universal law! In going around the circle of mere cosmical relations, time and space, man finds himself bounded by the great impassable and incomprehensible Unconditioned—eternity—ubiquity. And in vain the half-learned, and all not fond of exertion, because they cannot easily comprehend the relations of the finite and the infinite, rush to the conclusion that they are in conflict and irreconcilable; so that, in the popular mind, the human and the divine, reason and the imagination, our doubts and hopes, and fears, have become much entangled, and like "sweet bells jangled, out of tune and harshly."—HON. LAWRENCE JOHNSTON, *in Popular Science Monthly for July.*

Mechanical Puddling.—Mr. A. GREENER, of Brenton Lodge, Darlington, writes to the *Newcastle Daily Chronicle*: "The remarks that appeared in your paper in reference to the reported failure of DANKS' process of rotary puddling may be calculated to lead to the erroneous impression that, because DANKS' system has so far proved a commercial failure, we shall be compelled again to resort to hand puddling. It is well that this impression should be got rid of; and all who are familiar with the iron trade must be aware that there is no good reason why hand puddling should still be persisted in. At the Round Oak Ironworks, Dudley, and at the Tudhoe Ironworks, Spennymoore, puddling furnaces have been worked for a considerable time past by mechanical means, on what is known as DORMOY's principle. By this method hand labor is almost entirely obviated; and the results obtained up to the present time, and over a period sufficiently lengthy to prove that they can be permanently and regularly depended on, are of the most satisfactory character. Nearly 3,000 tons of iron have been produced with DORMOY furnaces at Tudhoe, with a consumption of not more than 14 cwt. of coal per ton of iron made, whereas the average consumption of coal per ton of iron made in the ordinary puddling-furnaces is not less than 25 cwt. But this is not all. The DORMOY puddling-furnace gives a decidedly better production of iron than the ordinary puddling-furnace, and the quality of the iron is considerably improved. With such results as these, it is absurd to talk of returning to the old and expensive system of hand puddling, as the Roane Iron Company have done in America. Mechanical puddling, in one form or another, must become the system of the future."

Colliery Explosions.—Interesting papers were read before the Meteorological Society by Mr. ROBERT SCOTT, F. R. S., and Mr. W. GALLOWAY, Inspector of Mines, on the connection between colliery explosions and the weather, in 1872. The number of fatal explosions which occurred during the year was 70, causing the loss of 163 lives. On three of those occasions more than 10 men were killed, which was the same as the average number of serious explosions which have occurred during the last twenty years. The number of non-fatal explosions was 224. According to observations taken at the Meteorological Office, 58 per cent. of the explosions were due to pressure, 17 per cent. to the great heat of the weather, while 25 per cent. were not attributed to any meteorological agencies. Some discussion was produced in reference to a diagram which exhibited the continuous curve of barometrical pressure from Glasgow Observatory during the last nine months of 1873, and a curve showing the prevalence of fire-damp in the mines of the West of Scotland during the same period. The latter information was obtained from the returns which were ordered by the Coal Mines Regulation Act of 1872, 32 of which had been used. The barometrical curves showed a very remarkable accordance in their course, but that representing fire-damp exhibited some striking irregularities, which were owing, probably, to the duties required by the Act not having been performed. The result of the investigation was stated to have placed it beyond doubt that a careful watch over the barometer for even several adjacent mines was necessary as a warning for the escape of fire-damp. Several instances were cited, in conclusion, to prove the advantages to be derived from the use of safety-lamps, especially where the atmosphere was disturbed, and attention was recommended to be turned by mine owners to the results recorded in the lecture.

THE ENGINEERING AND MINING JOURNAL.

NEW YORK, SATURDAY, AUGUST 8, 1874.

ROSSITER W. RAYMOND, Ph. D., Editor.
RICHARD P. ROTHWELL, C. E., M. E.,
Editor of the Coal and Iron Department.

The Engineering and Mining Journal, is devoted to Mining, Metallurgy and Engineering. Communications on these subjects will always be welcome.

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Argentine District—The Stevens Mine.

AN advertisement in another column calls attention to the approaching sale of a mine, which has been famous in Colorado, being almost the only one in Clear Creek County, which has always produced a high grade of argentiferous galena—an ore, which is particularly welcome to smelting works, where the bulk of the ores of the neighborhood is really rather an argentiferous zincblende than galena.

The Stevens mine, though located high up in the mountains, has been worked very regularly for the last 3 or 4 years, and has produced very rich ore. In the report of the United States Commissioner of Mining Statistics for 1871, the Commissioner says: "Considering the amount of development, they (the East and West halves of the Stevens) furnish a large amount of ore, about one half of which is a very pure galena, containing from 55 to 60 per cent. of lead, and from 160 to 230 oz. of silver per ton, whilst the other half is a decomposed ore, of ferruginous character, worth from 100 to 120 oz. of silver per ton." This is followed by a brief description of the wire-tramway erected at the mine to transport the ore to the foot of the mountain side. In the report for 1872, the same author says: "The Stevens lode has been constantly and profitably worked during the year, yielding an average of 30 tons per month of good ore, averaging 150 oz. in silver per ton, with a high percentage of lead."

The approaching unconditional sale of this mine offers a good opportunity for investment, and we heartily recommend an examination of the advantages offered.

Blast Furnace Practice.

We printed a month ago what we believe to be the fullest, and, in fact, the first complete details of anthracite blast furnace work ever published in this country; and, as our readers know, we have since given several articles to their consideration in the light afforded by modern metallurgical science. In doing so we have developed a number of interesting facts. For instance, we have shown:

I. That the great consumption of fuel in anthracite furnaces is apparently due to the removal of carbon in the upper part of the furnace by the carbonic acid produced lower down from the limestone and the oxygen of the ore.

II. That the remedy for this defect probably lies in lower furnaces and narrower stacks, without altering the size of the hearth; this decrease in the dimensions of the upper part of the stack being necessary to counteract the extreme density of the fuel which prolongs the contact of fuel and gas.

III. That the enormous quantities of air supposed to be blown into anthracite furnaces are greatly over-estimated—from 50 to 100 per cent. in many cases; the indications being that the amount of air which enters an anthracite furnace never exceeds 10 tons per ton of pig, and is usually much less.

IV. That the common belief in the possibility of cooling a furnace by blowing into it more air than the fuel can consume is certainly founded in error, and that such a proceeding is simply impossible.

V. In conclusion, we have shown that with ores averaging about 43 per cent. of iron, and requiring 1½ tons of flux, the pig metal ought to be produced with an expenditure of not more than 26-27 cwt. of pure carbon, this giving a percentage of useful effect which is entirely attainable; and we have also demonstrated theoretically what had been previously ascertained by expensive experiments—that calcination of the limestone is not a profitable operation, and that the advantage resulting from it decreases as the furnace is better adapted to its work.

We submit that these conclusions are of the first importance, and the fact that the first publication of accurate statistics has given rise to them is a proof, not only of the rich field which anthracite furnace practice offers to the investigator, but of the great need there is for the publication of accurate information on this subject. The great lack is in raw material—those figures of actual work extending over a considerable time, without which no trustworthy results are attainable. There is no secret in iron working, and few proprietors object to making public the details of their work, provided only that money values are omitted. These are not at all necessary, and we therefore invite proprietors and managers of blast furnaces to send us a table of the *quantities* of ore, flux, fuel and air they use to the ton of pig iron, the number of tons made per week, the height and diameter of the furnace, and analyses of ore, flux and fuel. As to these analyses, it is, of course, best to be accurate, but if the proprietor does not care to make all his analyses public it will be sufficient for our purpose to have what he considers to be a fair *average* composition for ore, flux and fuel. These details are of a kind which are freely given to rivals in the iron manufacture, and there can be no objection to making them public for a theoretical treatment of the subject. The name of the furnace need not be published if there is an objection to making it known. Our only object in making this request is to accumulate a sufficient number of blast furnace examples to settle, by comparison, some of the vexed questions of practice.

The Chilian International Exhibition.

ON the 16th September, 1875, there will be opened at Santiago, Chili, an international exposition which will be of great interest to American manufacturers. Our trade with South America has considerably increased within the past few years, and it is destined to attain very much greater proportions. Our machinery, locomotives, railroad cars, rock drills, diamond drills, mining machinery, and edge tools of all kinds are among our principal exports, and undoubtedly these, to the South American ports, would be greatly increased were we to make known what we have and take pains to learn what is wanted in these several countries. We have now offered us an admirable opportunity to do this by sending our products to the Chili exposition. This is not a merely local exhibition of a single petty state, though nominally so, but through the foresight and energy of the organizers it will represent all the South American States, and from the great liberality of the Pacific Mail and the South American Steamship Companies, which offer, the first, to carry articles weighing not over 2000 lb. from any part of this country to Panama (including the railroad charge) for *one dollar*, the latter to carry all articles intended for the exposition from Panama to Valparaiso *free*. The cost to exhibitors will therefore be very small.

We are certain that the immense advantages to be derived by manufacturers from a full display of their products will so impress our readers that not a few of the machines advertised in our columns will be found at Santiago in September, 1875.

The present commercial condition of this country clearly indicates that as a nation we have progressed to that point where, in manufacturing, we can more than supply our own people, and that consequently our future progress and development must be largely dependent on an export trade. No better opportunity for commencing this could possibly be presented than the Chilian Exposition, where our products will be made known to a whole continent of consumers, countries rich in natural resources, but very backward in manufacturing industries.

Improvements in the Manufacture and Use of Gas.

AT a recent meeting of the North British Association of Gas Managers, attention was directed by the President, Mr. W. FOULIS, Manager of the Glasgow Gas Works, to the importance of improving our methods of burning gas. It was stated, for example, that the quality of Glasgow gas is guaranteed 25 candles, and is in practice from 26 to 28, as tested by the burners in the testing house; but when consumed in smaller burners, and at higher pressures, the result is exceedingly different, and the average illuminating power does not, probably, exceed 16 candles. In the manner of burning, a difference of as much as 40 per cent. in the quantity of light may be obtained. It is, then, of the greatest importance to gas companies that they should furnish consumers with the kind of burner that will furnish the greatest amount of light with a given quantity of gas of the standard candle power. The ordinary fish-tail burner requires a considerable pressure on the gas in order to spread the flame and secure a proper combustion, while experiments have fully demonstrated that, to obtain its full illuminating power, a gas should be burned under a low pressure and with the exact quantity of oxygen necessary to produce complete combustion.

Great improvements have undoubtedly resulted from the experiments made at different times on burning common gas, but it does not follow that the burner best suited for the consumption of a 15-candle gas will give the best results with a 25-candle gas, and as the progress of the age calls for a higher illuminating power in the gas, and a smaller consumption, experiments should be made in this direction.

At the meeting above referred to, great interest was experienced in the results obtained by Mr. MALAM, of Dumfries, in the use of an arrangement for distilling gas at a very high temperature. The system involves: 1st. The use of a new mouthpiece at one end of the retort, the other being the stoking end. 2nd. A spray of water within the ascension pipe and a stream over its exterior. 3d. A quantity of incandescent coke at that end of the retort by which the gas

escapes, so that the vapors which are ordinarily condensed as tarry matters, may in part be converted into permanent illuminating gas

The system is said to be equally applicable to Newcastle coal and Scotch Cannel coal, and in each case Mr. MALAM has succeeded in obtaining from 3000 to 4000 cubic feet more of gas per ton than is usually obtained from the same coal. Nor is the increased yield (from 11,000 to 14 000 and 15,000 feet from Scotch Cannel) of gas attended with any diminution in illuminating power, for 28-candle gas was still obtained from the Scotch Cannel coal, and 17-candle gas from Newcastle coal.

So satisfied has the Dumfries Gaslight Company been with the success of the new system, that it is about reconstructing its works with the expectation of effecting a saving of 30 per cent. of the coal now consumed.

MR. WHIMSTER, of Perth, mentioned some of the results of his experience in using high heats in gas making, by passing the gas over incandescent coke. He had got as much as 12.000 cubic feet of gas from soft coal, but its total illuminating power was diminished, and the tear and wear of the retorts and other apparatus was increased. He had even got as much as 15,000 cubic feet of gas from Cannel coal.

Ideal Work in a Blast Furnace.

IT may be well to conclude the articles we have been publishing on anthracite blast furnace practice by one which shall show what is the utmost economy that can be expected in these furnaces, and therefore just what saving can be made by improving the methods of work.

Assuming that it is possible to so proportion the furnace that the exit gas shall contain 70 parts of CO_2 to 100 CO, which is the case in the best example of charcoal and magnetite practice that we know of, we should have, with our former example of 1869-73 :

Total heat received	5231	units.
Carried in by blast, say	760	"
Supplied by fuel	4471	"

The amount burned at the tuyeres is ascertained by deducting the heat derived from the reduction of the ore, that is to say, from the combustion of the hearth gas (CO) by the oxygen of the ore. This is a constant for each charge depending upon the relative amount of peroxyd and protoxyd of iron which is reduced. In the case before us, 0·435 tons of oxygen are obtained from the ore, sufficient to change 0·327 tons carbon from CO to CO_2. We have then :

Total heat from fuel	4471	units.
0·327 C in CO to $CO_2 \times 5607$	1833	"
Leaving to be supplied from hearth	2638	"

corresponding to 1·066 tons of carbon burned in the hearth. But unless we allow for some reduction of carbonic acid in the upper part of the charge the exit gas will contain much more than the required 70 per cent. of CO_2. This reduction consumes heat, and to supply this, we have to burn a little more fuel in the hearth. The whole account would stand nearly as follows :

Burnt in hearth, 1·110 C to CO=	2745	heat units.
" at top, 0·327 C (in CO) to CO_2 =	1833	"
	4578	"
Reduction of CO_2 0·034 C	107	"
	4471	"

The relative proportions of CO_2 and CO would then be :

0·293 C to CO_2 =	0·836	
From limestone	0·600	1·436 tons CO_2
0·851 C to CO	———	1 986 " CO

which is nearly the required ratio. The total amount of carbon burned is 1·174 tons which, at 85 per cent., corresponds to 1·380 tons coal. In practice, the CO_2 ratio was only 22 per cent., and the amount of carbon used was 1·685 tons and the coal was 1·982 tons. By raising the carbonic acid ratio to 70 per cent. there would, therefore, be a saving of 0·511 tons (10·2 cwt.) carbon, or 0·600 tons (12 cwt.) coal. Can this be accomplished? is evidently a very important question. We can only answer that it, or something very near to it, has been done with charcoal fuel, and there seems to be no obstacle to a similar result with anthracite. Whether this economy of fuel can be continued with that large make of iron, which is a not less important requirement in this country, is a question which only experiment can answer. We are strongly of opinion that very much can be done toward obtaining the one economy without sacrificing the other. In fact, we are under the impression that if the statistics of anthracite furnace work in 1872 could be collected there would be found among them examples of practice almost as good as that which we here set forth as ideal.

If we acknowledge a possible useful effect of 60 CO_2 to 100 CO, the amount of carbon burned would be 1·367 tons, and of coal 1·573. The saving in carbon would then be 0·318 tons, (6·34 cwt.), and in coal 0·409 tons (8·2 cwt.) per ton of pig metal. This, at least, ought to be a possible attainment with a fuel that is so slowly dissolved in CO_2 as anthracite.

CALCINATION OF LIMESTONE.

But, in spite of this difficult solubility, the figures we have published are a sufficient evidence that when an excessive amount of fuel is used in anthracite furnaces, the cause is to be found in this very action that ought to be least vigorous with this hard and compact fuel. Such a state of things indicates very grave errors in the proportions of the furnace, and, probably, there is no branch of the anthracite iron manufacture which so much needs intelligent discussion as construction. But this is a slow remedy, and efforts have been made to apply a quicker one by calcining the limestone. We spoke lately of the fact that this had been tried and rejected. Let us see whether calculation confirms, or throws doubt upon, the experimental results.

Assuming a total heat requirement of 5231 units, 912 units carried in by the blast, (see actual practice, this Journal, July 11) leave 4319 to be satisfied by the fuel. The amount of coal is 1·982 tons, carbon burnt in hearth, 1·350, and at top 0·305 tons; it is required to find the economy that would result from using calcined limestone. We will further assume that 85 per cent. of the carbonic acid and all the moisture is removed from the limestone. The removal of the moisture would lessen the amount of heat to be supplied by 49 units, leaving 4270 heat units. Instead of 0·600 tons carbonic acid in the limestone, we should have only 0.199 tons which would save 0·075 tons carbon in the item of CO_2 reduction, and about an equal quantity of carbon burned at the hearth. The account would then stand :

Burnt in hearth, 1 276 tons C to CO=	3155	heat units.
" at top, 0·327 " C (in CO) to CO_2 =	1833	"
	4988	"
Reduction of CO_2 0·230 " C	720	"
Total as above	4268	"

The total amount of fuel burned would then be :

C to CO 1·409 tons=	tons CO 3 287 or 100	
C to CO_2 0·097 " = 0·783		
From limestone= 0 199	0·982 or 30	

Without calcining, the amount of carbon required was 1·685 tons, and coal 1·982 tons. With calcining, the carbon needed would be 1·506 tons, and the coal 1·771. There would, therefore, be a saving in coal of 0·211 tons, or 4·2 cwt. per ton of pig. If the coal is taken at $4 per ton, the saving would be about 84 cents, and for this sum 1·6 tons limestone would have to be calcined. The cost of calcination could not, therefore, exceed 52½ cents per ton of limestone. In any case, the advantage gained would be small, and it would be less as the furnace worked better. The gain of 84 cents per ton of pig is calculated on a furnace that expends one-third of its fuel on maintaining the wasteful reduction of carbonic acid in the top. But a furnace which worked up to a carbonic ratio of 60 per cent. would gain only 2½ cwt. coal per ton of pig, so that the calcination of limestone is less useful as the other means of economy are improved. These results agree with those obtained by experiment.

J. A. C.

CORRESPONDENCE.

Manufacture of Charcoal.

TO THE EDITOR: SIR—In your notes on "Manufacture of Charcoal" in the Upper Peninsula of Michigan, I notice it is stated that hard coal bears a blast pressure of 1 to 1½ pounds, and soft from ½ to 1 pound. It must be that something besides the quality of the coal influences the pressure in the case mentioned, as we blow from 2½ to 3½ pounds at Fletcherville Furnace on coal evidently not as good as Michigan coal—it only weighing 9.8 to 19 pounds per bushel, viz.:

White Pine	9.8	Black Ash	14.475
Basswood	10.625	White Ash	16.325
Spruce	11.250	Beech	17.025
Poplar	12.275	Yellow Birch	18.750
Hemlock	12.850	Sugar Maple	18.950

We think the increased pressure of blast has mainly contributed to the extra long blast the furnace is now on, viz.: 20 months, in place of the average blast of 9 months.

Our coal is made in rectangular kilns of 65 cords capacity, yielding 45 to 50 bushels per cord, furnace measurement. Each kiln is filled and emptied twice in 4 weeks, when necessary.

We know of no other place where kilns are fired and handled the same as at Fletcherville Furnace (except, possibly, in Alabama). When fired in the old way it required from 20 to 28 days to get a round of coal; now 14 days is more than is necessary.

Yours, truly,

T. F. WITHERBEE.

Blast Furnace Practice.

JULY 24, 1874.

TO THE EDITOR—SIR: I am of the same opinion that you are, viz.: that to blow 14,000 cubic feet of air per minute into an 18-foot furnace is simply impossible. If it were possible, she ought to make from 500 to 600 tons of iron per week.

The best data I can give you is the working of the —— —— furnace for the past six or eight weeks. This furnace is, or was, 15 ft. in the bosh, when she was blown in, and 54 ft. high. The distance between tuyeres in the crucible is 7 ft. 6 in., which is practically the diameter of hearth.

She is running singly, and blown with one engine. We run the engine a regular number of revolutions per minute, without any regard to the working of the furnace. The blowing cylinder is 6 ft. diam. and 6 ft. stroke. The engine runs 20 revolutions per minute—never exceeding 21. The area of 6 ft. is 28; 20 double strokes, at 6 ft. stroke, will make 240 ft. per minute, or 6,720 cubic feet of air; allowing 12 per cent. for waste (as we do not use a Pneumatic Hoist), will leave about 6,000 cubic feet of air per minute to do the work in the furnace.

I will send you an abstract of the report of the furnace for the last eight weeks, showing the consumption of coal, ore and limestone, and production of iron,

and made, as I before said, on a practically uniform quantity of 6,000 cubic feet of air per minute.

I cannot tell you how much blast we blew in 1855, as the engines were blowing in common. What I send you now is the most reliable data we have, and is, I think, very nearly correct.

I am of the opinion that the quantity of fuel contained between the tuyeres regulates the quantity of air that can be blown into a furnace. A certain amount of carbon requires a certain quantity of oxygen, and more than that is, I think, a positive injury to a furnace. If you can figure out how much oxygen is necessary to thoroughly consume a pound, or, if you please, a ton of anthracite coal, you will confer a benefit upon us.

We have no analyses of furnace gases.

Yours, very truly, "LEHIGH."

Coal Mining in the Wyoming Valley.

WILKES-BARRE, Pa., August 4, 1874.

TO THE EDITOR: Sir—Among other improvements going on in this valley, is the sinking of a shaft of the Lehigh and Wilkes-Barre Coal Company at South Wilkes-Barre, the dimensions of which are 12x24 ft. I am indebted to MESSRS. SMYTH & SON, the contractors, for the following information relative to the same. The shaft has now reached a depth of 330 feet, having passed through five unworkable seams, and just reached what they suppose to be the 5 ft. seam; but, as they have not passed through it, they are not positive. It is the intention to continue sinking until the Baltimore seam is found, which is supposed to be at a depth of 900 ft. At a distance of about 50 ft. from the present bottom, considerable gas, which is ignited and used to assist ventilation, escapes from the slate at one end of the shaft. They have been using a Rand drill for about five months, working three shifts of eight hours each, every day during this time, excepting Sundays and the other usual stoppages, and have not lost over an hour for repairs to drill. During this time the only piece that wore out was the nut on the cup, which was replaced in five minutes by a duplicate. A thousand dollar RAND & WARING air compressor was used to furnish power to the drill; but not being of sufficient capacity, they have had some trouble with it, although it is working very satisfactory now.

I also visited the shops of the Wyoming Valley Manufacturing Company, who are about to remove their machinery to their new building at the side of the Lehigh and Susquehanna Railroad. They will have a siding from this road passing through both the machine shop and foundry. The capacity of the works will be about doubled, and they will be prepared to turn out castings weighing 15 tons. They have a fair amount of general work on their books, three mine locomotives, and one twenty ton locomotive, the latter being built for the Lehigh Iron Company.

The Luzerne Coal and Iron Company are building a large breaker at West Pittson, which they expect to complete in about two months. The Lehigh and Wilkes-Barre Coal Company are building another at the Audenried shaft. A portion of the framework is already erected.

Mr. J. H. SWOYER (of the Riverside Coal Company), who had, a short time ago, a serious caving in at his mine, expects to be able to resume work before the end of the week. The rock has stopped falling. He calculates that his only loss of coal will be some pillars, and not near so serious as was first reported.

The Lehigh and Wilkes-Barre Coal Company suspended work about two weeks ago to meet the curtailment of production demanded by the Combination and the overcrowded state of the market, but resumed yesterday. The other collieries are working four days a week to meet the same requirements.

A correspondent of the New York *Herald*, writing from Plymouth, under date of the 30th ult., wrongly informed the public as to the true state of affairs in this district. To say that the coal interests were never more depressed; that there are hundreds of deserving miners, in consequence thereof, suffering for the bare necessaries of life; that the condition of things is even worse than during the strike of 1870–71; that bankruptcy is staring the merchants in the face; and above all, that there is an indication of another determined strike, is to utter what is absolutely false. Under the workings of the existing Combination, the producers of coal are, or should be, under careful management, making a fair profit; while during the previous three or four years many thousand tons were shipped to market at a loss of 50 cents a ton, and in certain cases at even a greater loss. I am unable to learn of as much suffering among the miners as is generally the case. The merchants, certainly, have not so much to complain of as in nearly all other sections of the country. The effects of economizing are felt here as elsewhere. A strike is one of the last things anticipated by the well informed. The miners of this district are well paid, and intelligent also, and should they study their own interests, they would make no complaint. Of course there are always a class of men who are too indolent to desire to work and earn an honest livelihood, and are always ready to bring about a strike for the purpose of being placed upon Union pay. Had there been no Combination to regulate the production and price of coal, competition would have been so great that either wages would have had to come down very much or work have been entirely suspended, so that the miners owe to the Combination thanks, rather than ingratitude. The policy of the Combination, and its acknowledged strength, have given a confidence in prices unknown to almost any other article of merchandise and, as a consequence, the full although limited requirements of the country have been supplied, and, upon the whole, there are very few lines of business that can show a better record. Without a regulating power, and with abundant means of transportation, every colliery would have produced to its utmost capacity, in order to secure the smallest cost of production, and would soon have made coal so much a drug, that the market would not have recovered in a year's time. G.

The Present Cost of Locomotives is given in the following bids made on an order for 50 locomotives to be furnished to the Grand Trunk Railway of Canada. The locomotive companies of Paterson (and of all other places, too) expecting sharp competition, shaved their figures down to the lowest that they dared venture, and the close agreement among the most of them shows how closely the thing was figured down. The bids received were as follows:—

Rogers Locomotive and Machine Company, of Paterson	$10,250
Danforth Locomotive and Machine Company, of Paterson	10,050
Baldwin Locomotive Works, of Philadelphia	10,575
Schenectady Locomotive Works	10,500
Pittsburgh Locomotive Works	10,650
Kingston, Canada, Locomotive Works, gold	10,000
Portland Locomotive Works	10,000
Hinkley Locomotive Works, Boston	10,510
Manchester Locomotive Works	9,250
Rhode Island Locomotive Works	8,800

The bid of the Rhode Island (Providence) Works was much the lowest, and, of course, the contract was awarded them. This company have put their figures so low that all their competitors agree that they must lose money. They underbid even the Manchester (N. H.) Works, which had twenty locomotives in process of construction, which they expected to sell to the road. We understand that the figuring between these two shops was a regular "cut-throat" game. Not one of the other builders whose bids are given could see any object whatever in taking the order at less than $10,000 an engine, and most of them came away from the opening of the bids pleased that their offer was not accepted, as all of them had made their estimates to cover the bare cost, without a dollar of interest on the investment. Added to this is the fact that the conditions of the contract were very exacting, failure to deliver to the day, or any defect in construction or material, entailing heavy damages.—[*Exchange.*

COAL TRADE REVIEW.

Import Duty on Coal.

Anthracite free. *Bituminous*, per ton of 28 bushels, 80 lb. to the bushel, 75c., gold.

All *slack*, or *culm*, such as will pass through a half-inch screen, per ton of 28 bushels, 80 lb. per bushel, 40c., gold.

Not otherwise provided for, per ton, 40c. gold.

NEW YORK, Aug. 7, 1874.

The Production of Anthracite Coal for the week ending Aug. 1, 1874, was as follows:

Tons of 2240 lb.	WEEK. Tons.	YEAR* Tons.
Wyoming Region.		
Delaware and Hudson Canal Co	30,564	1,389,474
Delaware, Lackawanna and Western R.R	37,166	1,451,146
Pennsylvania Coal Co	29,638	734,302
Lehigh Valley R.R.	14,438	579,782
Pennsylvania and New York R.R	626	36,288
Central Railroad of New Jersey	1,061	740,754
	113,493	4,931,686
Lehigh Region.		
Lehigh Valley R.R	59,891	1,813,441
Central Railroad of New Jersey	21,889	595,010
†Danville, Hazleton & W. B. R.R.	1,058	18,623
	82,838	2,427,674
Schuylkill Region		
Philadelphia and Reading R.R	143,753	2,693,930
Shamokin and Lykens Valley	32,513	470,583
	176,266	3,164,513
Sullivan Region.		
Sullivan and Erie R.R	1,183	20,919
Total of all the regions	373,780	10,544,792

* Year beginning Jan. 1.
† From the Penn'a R.R. Co.'s report, July 25.

The Production of Bituminous Coal for the week ending Aug. 1, was as follows:

Tons of 2000 lb.	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Cumberland and Pennsylvania R.R.	60,262	1,280,299
Cumberland Branch R.R.	8,697	153,020
Barclay Region, Pa.		
Barclay R.R.	8,010	187,850
Broad Top Region, Pa.		
Huntingdon & Broad Top R.R.	4,883	135,228
The following reports are to July 25th.		
Clearfield, Region, Pa.		
Snow Shoe	539	36,641
Tyrone and Clearfield	12,221	345,660
Allegheny Region, Pa.		
Pennsylvania R.R.	3,509	127,769
Pittsburgh Region, Pa.		
West Penn. R.R.	4,753	113,968
Southwest Penn. R.R.	44	4,429
Penn. and Westmoreland gas coal, Pa. R. R.	21,114	533,205
Pennsylvania R.R.	10,491	247,071
Kanawha Region, W. Va., week ending July 25.		
Chesapeake and Ohio R.R.	2,220	88,002
Pictou Region, Nova Scotia.		
Consigned to the United States	4,135	23,061
" " " West Indies	....	3,422
" " Canada	6,087	43,669
" " Other provinces	2,503	27,682
Block House Region, Nova Scotia.		
Week ending July 25:		
Consigned to the Provinces	1,073	6,077
" " " United States	824	5,624
" " Cuba	360	360

Monthly reports to July 1st.

	June.	Year.
St. Louis Region.		
Belleville and Southern Illinois RR.	....	126,048
Ohio and Mississippi RR.	....	72,768
Illinois and St. Louis "	....	72,885
St. Louis, Vand., Terre Haut and Ind. RR.	....	50,000
St. Louis and Southeastern RR.	....	46,280
Cairo and St. Louis (narrow gauge) RR.	....	14,702
Ind. and St. Louis RR.	....	9,670
Toledo, Wabash and Western RR.	....	1,054
Chicago and Alton RR	....	4,216
Iron Mt. RR. (semi-Anthracite from Ark.)	....	675
Rockford, Rock Island and St. Louis RR.	....	1,470
By Illinois River	....	1,320
" Ohio and Cumberland River	....	12,515
Warrior Region, Ala.		
South and North Alabama Railroad	....	9,773
Cahaba Region, Ala.		
South and North Alabama Railroad	....	1,977
	June.	Year.
Saw Mill Run Railroad	....	64,598
Castle Shannon Railroad	....	69,180
Cleveland and Pittsburgh Railroad	....	128,210
Pittsburgh, Cincinnati and St. Louis RR.	42,515	328,485
Erie and Pittsburgh Railroad	34,320	119,696
Pittsburgh, Fort Wayne and Chicago RR.	17,592	114,971
Monongahela Nav. Co., Coal	....	1,740,231
" " " Coke	....	45,075
P. C. & St. Louis R. R. Coke	190	742

The Production of Coke on the line of the Pennsylvania Railway and branches, as per report for the week ending July 25:

Tons of 2000 lb.

	Week. Tons.	Year. Tons.
Tyrone and Clearfield	36	365
Allegheny Region, Penn. R.R.	13	106
West Penn. R.R.	238	29,567

Southwest Penn. R.R.	6,240	220,808
Gas Coal, Penn. R.R.	790	22,670
Pittsburgh Coal, Penn. R.R.	912	40,750

Our table of anthracite production gives for the week 373,780 tons as against 340,133 tons for the previous week. The total production for the year is 10,544,792 tons.

The receipts at Port Richmond were 60,000 tons; shipments, 62,000 tons; and balance on hand 68 000.

The receipts at Greenwich, Philadelphia, were: bituminous 4335 tons, and gas coals 7302 tons; shipments: bituminous 2930 tons, and gas coals 6850 tons; balance on hand: bituminous 3028 tons, and gas coals 2009 tons.

The receipts of anthracite coal at Coal Port for the week were 6508 tons, and shipments 7614 tons; at South Amboy the receipts were 10,135, and shipments 13,206. At both ports, since January 1st, the receipts were 552,787 tons, and shipments 527,050 tons, showing an accumulation of stock this year of 25,737 tons.

The production of Cumberland coal from January 1st to August 1st, inclusive, was 1,433,319 net tons of 2240 lb., as compared with 1,519,506 net tons for the corresponding period last year. The production for the week was 68,959 tons, as compared with 46,512 tons for the corresponding week in 1873. This shows an increase of 22,447 tons for the week, and a decrease for the year of 86,187 tons.

The Delaware and Hudson Canal Company has in stock, at Rondout, 40,000 tons; at Honesdale, 260,000 tons, and at Weehawken 15,000 tons.

Coal Trade of Buffalo.

Receipts for the week ending 1st August:

By Lake	2,916 tons.
By S. R.R.	6,215 "
Shipments by Lake	10,426 tons.

Anthracite.—The spurt which the trade takes towards the close of each month gives place to an extra dullness the week following; such has been the case during the past week, and will probably continue for the next ten days. Stocks are being reduced since the sharp curtailment of production, and consumers, during the latter part of July, showed a greater disposition to lay in supplies. Manufacturers will doubtless soon begin the fall trade, and we may then look for a fair—we do not expect a very active—business in coal. Throughout the country generally, the feeling in business circles is improving, and a more hopeful view is taken of the prospects. This is largely due to the magnificent harvests that are reported from nearly every part of the country, and to the fact that the strict economy practiced for nearly a year, has placed trade on a sounder and better basis, if it has diminished its volume. This feeling is growing, and we look for a better business with the restoration of confidence. There can be no sudden reaction that will bring us up to the brisk times of a year and two years ago, but we would be satisfied with much less now. The panic has moderated the ambition of most of our merchants.

Freights have again fallen off, and vessels can be obtained readily for $1.00 to Boston. This price cannot pay the working expenses of the vessel and leave any margin for the owner, so that we must expect a considerable increase before the close of the season. The grain movement and general fall trade will give employment to many vessels, and freights will probably stiffen very perceptibly in September; it is, therefore, to the interest of consumers on the coast to lay in stocks before the rise in freights is added to the monthly rise in the price of coal.

Bituminous.—In Bituminous coal the business is confined principally to filling contracts made early in the season, the only new contract of any note to record was one made with the French Transatlantique Steamship Company, for the supply of its steam coals for a year. This will probably amount to 25 or 30,000 tons, and, in these dull times, called out a sharp competition in the bids. The Consolidation Coal Company secured the order at, it is stated, $6 72½, delivered in open barges alongside in this harbor. This figure, said to be 42½ cents below the price paid by the Steamship Company for their Cumberland coal last year, shows how close the profits on bituminous coal have to be pared down at present. Prices at Georgetown, nominally $4 40, are really $4 30, even for small orders. We have no doubt the strict economy which these prices entail on the Cumberland companies will be of a permanent benefit by causing them to study more closely than they have hitherto done, economy in the mining and handling of their coal. It is the few cents that can be saved by the use of machinery, the adoption of those practical improvements that reduce the labor account and facilitate the work at the mines that must now be looked after. There may also be made an improvement in mining which will reduce the amount of waste and increase the proportion of large coal. These are points to be carefully considered by our bituminous coal companies, now when the price comes so near the cost of production that a few cents a ton may change the balance on the books.

The Ohio coal reported for some weeks as on this market, has been offered at auction, and one barge load sold at $4 50 per 2240 lb, not sufficient to pay freight charges.

There has been an arrival of a cargo of Scotch cannel during the week which has been placed on private terms.

Wholesale Prices for August of Anthracite f.o.b., at the Tide Water Shipping Ports per ton of 2240 lb.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
Wyoming Coals.						
*Lackawanna and Scranton at E'port & Hoboken	5 10	5 20	5 30	5 45	5 95	4 90
†Pittston at Newburgh	4 95	4 95	5 05	5 15	5 70	4 80
Wilkesbarre at Port Johnston	5 10	5 20	5 30	5 45	5 95	4 90
Plymouth, R. A.	....	....	5 30	5 45	6 05	4 90
Susque. Coal Co. at Amboy W.A.	5 10	5 20	5 30	5 45	6 05	4 90
Kingston at Hoboken	5 10	5 20	5 30	5 45	5 95	4 90
Lehigh Coals.						
Old Company at Port Johnston	6 05	....	6 00	6 00	6 15	5 20
Old Company's Room Run	5 55	....	5 55	5 55	5 90	4 90
Sugar Loaf at Port Johnston	6 05	....	6 00	6 00	6 00	5 05
Lehigh Coal Exchange	5 90	....	5 85	5 85	6 00	5 05
Honey Brook at Elizabethport	5 90	....	5 85	5 85	6 00	5 05
Spring Mt. C. Co. at Hoboken	5 90	5 90	5 85	5 85	6 00	5 05
Beaver Meadow at South Amboy	5 90	....	5 85	5 85	6 00	5 05
Schuylkill Coals at Port Richmond.						
Schuylkill white ash	4 60	4 70	4 80	4 95	5 45	4 00
Schuylkill red ash	....	....	4 95	5 05	5 50	4 25
Shamokin white and red ash	....	....	....	5 00	5 55	4 45
N. Franklin	....	....	5 40	5 40	5 45	4 25
Lorberry	....	....	5 75	5 75	5 75	4 35
Lykens Valley	....	....	....	6 40	6 40	4 95

* f. o. b. in New York Harbor.

† These are the rates for Pittston coal. Buyers having registered contracts will be charged 15 cents less than above prices.

	Per ton.
Freight from Hoboken and Wehawken to New York	40c.
" " Elizabethport & Port Johnston, to New York	40c.
" " South Amboy to New York	45c.
" " Newburgh to New York	65c.
" " Port Richmond, "Phila." to N. Y. alongside	95c.
" " Rondout to New York by boat or barges of the D. & H. Canal Co. "delivered"	50c.

Retail Prices.

Per 2000 lb. are as follows:

	Grate and Egg.	Stove.	Chestnut.
Pittston coal, in yard	$5 90	$6 10	$5 20
Delaware & Hudson, delivered	6 85	7 10	6 35
Scranton, in yard	7 00	7 25	6 55
Wilkes-Barre, delivered	6 85	7 10	6 35
Lehigh & Locust Mountain,	7 25	7 75	6 75
Schuylkill Red Ash	8 00		

Cargo Prices of Bituminous Coal.

Per ton of 2240 lb.	At the Shipping Ports.	Alongside in New York.
Westmoreland and Penn, at Greenwich, Phila.	$6 25	$7 65
" " at S. Amboy	7 00	....
Red Bank Cannel Pa., at Phil.	8 50	9 50
" " at S. Amboy	9 00	....
" Orrel, "	7 00	7 65
" " at Phil	6 25	....
Youghiogheny, Waverly Co, at Baltimore	6 00	7 65
Despard, West Va. "	5 50	7 40
Murphy Run, W. Va. at Baltimore	5 50	7 40
Fairmount, W. Va "	5 50	7 40
Newburgh Orrel, Md. "	5 50	40
Cannelton Cannel, W. Va., at Richmond.	11 00	12 60
" Splint, " "	5 50	7 50
Peytona Cannel, " "	....	12 50
Sterling " Ohio	....	14 00
Straitsville, " Lyonsdale Cannel	....	11 50
At Sundusky, O.	3 90	....
FOREIGN GAS COALS.	Sterling.	Am. cur'cy.
Newcastle, at Newcastle-on-Tyne	9/@13/	7 50@ 8 00
Liverpool House, Orrel at Liverpool	29/	13 00
Ince Hall Cannel "	52/	18 00
" Gas, Cannel "	40/	15 00
Scotch Gas, Cannel at Glasgow, nominal.	28/	9 50
	Gold.	
Block House, at Cow Bay, N.S.	2 25	6 00
Caledonia, at Port Caledonia	1 87½	5 50
Glace Bay, at Glace Bay	2 00	5 75
Lingan, at Lingan Bay	2 25	6 25
Sydney, International and Reserve mines, at Sydney	2 25	5 75
Pictou, Albion and Vale mines, at Pictou	2 50	6 50
STEAM AND HOUSE COALS.		
Broad Top, at the mine, $1 25; at Port Richmond, Phil	4 75@5 00	6 00@6 25
Cumberland, at Georgetown and Alexandria, Va.	4 30@4 40	6 50@6 75
Clearfield, Derby, "Kitaning and Sterling," at the mines, $1 25; at Greenwich, Phil	4 75@5 00	6 25
James River, carbonite, at Richmond, Va	6 75	9 00
" bituminous, "	4 00	6 25

Retail Prices in New York.

Per ton of 2000 lb.

Liverpool House Orrel	$20 00@22 00
Liverpool House Cannel	....@25 00
American Block	16 00@....
Straitsville Cannel	16 00@....
Carbonite	12 00@....

Coal Trade of Philadelphia.

PHILADELPHIA, Aug. 6, 1874.

Reported by our special correspondent.

The coal trade still languishes. Dullness is no name for the condition of affairs in the Schuylkill region. Some few of the collieries of the Reading Coal and Iron Company are in operation, as well as some of those operated by individuals and firms; but at the mines, at the tide water depots, and in the yards and on the wharves at all the principle distributing points, there is a gorge of coal, and complaint of a general indisposition on the part of manufacturers and domestic consumers to buy at the present prices. The hope is expressed that September will bring about trade; if it does not, a suspension of mining will become a necessity. The high price of anthracite is one of the great obstacles to the revival of the iron trade, at least so the chief of one of the largest foundries informed us to-day. The great head of the coal interest in the Schuylkill region is Mr. F. B. GOWEN, the President of the Reading Railroad Company, and of the Philadelphia and Reading Coal and Iron Company. Whatever may be the opinion of his policy, none doubt his talents or great organizing ability; he now controls all of the outlets from Schuylkill County by way of the Valley of the Schuylkill. He is rapidly acquiring, through his subordinate company, the Reading Coal and Iron Company, possession of all the coal roads of any value in the Schuylkill basins; individual operators stand but little chance. The same progress in this direction for a year longer, and that class of men who have made the Schuylkill County coal trade what it is will be no more. But all this does not satisfy Mr. GOWEN'S ambition. A visit to Fort Richmond will satisfy anyone that the coastwise carrying trade in coal is soon to be controlled by this giant corporation. At short intervals they are turning out steam colliers of such tonnage and draft as to suit all the ports of New England and the Southern and Middle States. The time is not far distant when coastwise shipments will be completely under the control of this great corporation. The complete monopoly of the anthracite coal trade directs the attention of consumers to the bituminous coal fields in this and neighboring States. Development of these fields into a great power of competition with the monopoly is the only possible check to the complete control of the anthracite fuel of this State by six great corporations who are acting as a unit.

Bituminous Coal, Wholesale.

Penn. and Westmoreland (Gas), f.o.b., Groenwich	5 25
Broad Top, (according to destination) f.o.b., Port Richmond	4 75@5 00
Clearfield f.o.b. at Greenwich, according to destination	4 75@5 00

Bituminous, Retail.

$6 00 in yard, per 2240 lb., cartage added.

Prices of Anthracite Coal for Aug., 1874, at Various Points.

Wholesale—Per ton of 2240 lb.

Schuylkill Lehigh and Wyoming Coal.

AT	Lump and Broken.	Egg.	Stove.	Chestnut.
Mauch Chunk, Lehigh coal	3 50	3 50	3 75	3 25
" Wilkes B. coal	3 50	3 50	3 75	3 25
Port Carbon.*	2 75	3 00	3 15	2 40
† Schuylkil Haven*	2 83	3 08	3 23	2 48
‡ Port Clinton*	2 94	3 19	3 34	2 59
Carbondale	2 25	2 25	2 50	2 00
Pittston	2 50	2 25	2 50	2 25
Scranton	2 25	2 25	2 50	2 25
Wilkes-Barre	2 25	2 25	2 50	2 00

The following is specially reported by the Riverside Coal Co., Wilkes-Barre, Pa.

AT	Broken & Egg.	Stove.	Chestnut.	Lump.
Buffalo, N. Y., f. o. b., per 2000 lb	6 40	6 85	6 35	6 85
Buffalo, N.Y. afloat, per 2000	5 90	6 35	5 85	6 35
Rochester, " " " "	5 65	6 10	5 65	6 10
Weedsport " " " "	5 35	5 80	5 30	5 80
Syracuse, " " " "	4 95	5 40	4 90	5 40
Ithaca, N. Y., f. o. b. and afloat, per 2000 lb	4 80	5 25	4 75	5 25
Charlotte, N.Y. f.o.b. 2000 lb	5 90	6 35	5 85	6 35
Auburn, " afloat "	5 25	5 70	5 20	5 70
Elmira, " " "	4 60	5 00	4 75	5 00
Oswego, " " "	5 90	6 35	5 85	6 35
Oswego, " retail delivered per 2000 lb	7 00	7 00	7 45	

Rates for coal on the line of the P. & N. Y. R.R. and L. & B. Junction per ton of 2240 lb. Broken and Egg, $3.05; Lump, Stove and Chestnut, $3.30.

* Broken coal for these points is 10 cents per ton above these figures.

† By Railroad and Canal.

‡ By Canal.

Baltimore, Md.

Aug. 6, 1874.

Reported by our special correspondents.

WHOLESALE PRICES PER 2240 lb.

ANTHRACITE.

	afloat.	at depot.
Wilkes-Barre, "Lee," or "Diamond,"		
Lump, steamboat	$5 00	$5 60
Broken	5 20	5 65
Egg	5 52	5 95
Stove	5 67	6 10
Pittston and Plymouth.		
Lump, steamboat, and broken	....	5 40
Egg	....	5 70
Stove	....	5 85
"Boston" (free burning,)	....	....
Shamokin, red or white ash	....	....
Egg	....	....
Stove	....	....
Lykens Valley, red ash, all sizes	6 02	630

From wharf or yard, wholesale, 50@75c. additional.

By retail, all kinds and sizes, per 2,240 lb, $7@8 00.

BITUMINOUS.

George's Creek and Cumberland f. o. b. at Locust Point for cargoes	4 60@4 85
West Va. Gas Coal f. o. b. at Locust Point	5 50@....
Kanawha Cannel, coarse	13 00@....
Tyrone	7 25@....
Ritchie Mineral of West Virginia	1 00@....

Boston.

Aug. 4, 1874.

Reported by our Special Correspondent.

The market is very quiet, and without change.

CARGO PRICES TO TRADE.

Lingan coal	$6 37	Westmoreland	8 50
Caledonia	6 00	WarelyCo. Youghiogheny	8 50
Picton	$6 75@ 7 00	Cannelton Cannel	14 00
Block House	6 25	Cumberland	6 45@ 7 00
Red Bank Cannel	11 00	Anthracite	5 75@ 8 00

Burlington, Iowa.

Aug. 1, 1874.

Specially reported by Messrs. WIGHTMAN & CUMMINGS, wholesale and retail dealers and shippers of coal.

Per ton of 2000 lb.

Lehigh Lump	$15 00	Illinois Smithy	$6 00
Lackawanna	11 00@11 50	" Steam	3 75
Blosburg Smithy	13 00	Connellsville Coke	12 50
Pittsburgh "	10 00	Illinois "	10 00

Buffalo, N. Y.

Reported by our Special Correspondent.

Aug. 4, 1874.

Per ton of 2000 lb.

Youghiogheny Gas Coal	$5 50	Connellsville coke	$6 50
Briar Hill	5 25	Stirling Cannel	6 75
Fairmount and Red Bank	4 25	Red Bank "	5 75
" Nut	3 50	Stirling Gas Coal	....
" Slack	2 75	Beaver "	....
Catfish Lump	4 25	Cameron	3 75
" Nut	3 75	St. Mary's	3 75

Briar Hill coal, and Stirling and Red Bank cannels, at $8; all other coals $1 per ton above wholesale prices.

Anthracite f. o. b. vessel. Retail prices $1 per ton additional, delivered.

Grate	6 25	Stove	6 70
Egg	6 25	Chestnut	6 20

Chicago, Ill.

Aug. 4, 1874.

Specially reported by Messrs. RENO & LITTLE, Coal Merchants.

Retail prices per ton of 2000 lb. delivered to buyer.

Lehigh Lump	$10 50	Walnut Hill (W. Va.)	6 50@ ....
Lehigh prepared	10 00	Midway (West Va.)	6 50@ ....
Lackawanna, Wilkes-Barre and Pittston,		Cannel	8 00@ 9 00
		Blossburg	8 50
Grate, egg, and chest	8 75	Indiana Block	6 50
Stove or range	9 25	Hocking " Brooke"	6 50
BITUMINOUS.		Wilmington and Illinois	5 00
Briar Hill and Erie	7 50@		

Cincinnati, O.

August 4, 1874.

Specially reported by Messrs. A. BUCHANAN & Co., wholesale and retail dealers in coal and coke.

There have arrived in this market about one million (1,000,000) bushels each of Pittsburgh and Kanawha River coal, owing to the late rise in the river. The run would have been much larger if there had been a little more water at Pittsburgh. There has been a decline, however, in prices, and we now quote:

Per ton of 2000 lb.

	Bush.	Ton.
Youghiogheny, or Pittsburgh, afloat	11 c.	$2 86
Pomeroy coal	7½ c.	1 95
Cannel coal	18 c.	4 68
Semi Cannel	10 c.	2 60

The following are retail prices delivered:

Youghiogheny	15 c.	$3 90@$
Pomeroy	12 c.	3 12@
Cannel	22 c.	5 72@
Kanawha Semi Cannel	14c.	— — 3 64
Anthracite		— — 11 00
Foundry coke	12c.	—
Soft coke	8c@10c.	—

Cleveland, O.

Aug. 4, 1874.

Reported by our Special Correspondent.

Per ton of 2000 lb.

Youghiogheny, l'p, f.o.b.	$4 65	Straitsville	$3 50
Youghiogheny, nut	3 60	Columbiana	3 75
Briar Hill, (Church Hill)	4 45	Strip Vein	4 00
" " (Brookfield)	4 30	Mountain Blossburg (blacksmith)	6 00
Massilon, according to quality	$3 60 to 3 85	Darlington and Sterling Cannel	4 60
Hocking Valley	3 75		

Council Bluffs, Iowa.

Aug 1, 1874.

Reported by our Special Correspondent.

There is no change in the price of coal at this point. Quotations remain unchanged. We quote as follows:

Per ton of 2000 lb.

ON TRACK.

Blossburg (blacksmith)	$14 20	Wyoming	13 00
Anthracite	14 00	Missouri	6 00
Iowa	4 50	Kansas	6 00

RETAIL.

Blossburg	$16 00	Wyoming	$15 00
Anthracite	16 00	Missouri	8 00
Iowa	6 50	Kansas	8 00

Detroit, Mich.

Aug. 4, 1874.

Specially reported by Messrs. ROBINSON & KEYS, dealers in all kinds of coal.

Please continue quotations as last reported. Trade is quiet.

Per ton of 2000 lb.

Lehigh Lump, per ton	$10 50	Blossburg	8 50
Lehigh " prep. sizes	9 50	Briar Hill	7 50
Wilkes-Barre, Grate and Egg	8 50	Willow Bank	7 00
		Erie	7 50
Wilkes-Barre, Stove and Nut	9 00	Massillon	7 00

Denver, Col.

RETAIL PRICES.

Per ton of 2000 lb.

Canon	$6 50	Boulder Valley	$4 75
Marshall	5 50	Eulner	5 50
Murphy	5 50	Black Diamond	5 50
Baker	5 00		

Erie, Pa.

Aug. 4, 1874.

Reported by our Special Correspondent.

Wholesale, per ton of 2,000 lb.

Anthracite f.o.b. vessels.

Lump	$6 60	Stove	$6 65
Grate	6 10	Chestnut	6 05
Egg	6 10		

Bituminous f.o.b.

Briar Hill	$4 40	Beaver	$4 25

Retail, per ton of 2,000 lb.

Anthracite.

Lehigh, chestnut	$8 50@$9 00
" prepared	8 75@ 9 25
Lykens Valley, stove	9 50@10 00
Lykens Valley, chestnut	8 00@ 8 50
Schuylkill and Wilkesbarre	7 50@ 8 00
Blossburg (Smithing)	7 50@ 8 00

Bituminous.

Chenango Valley (Ormsby), lump	$6 00
Mahoning Valley (Briar Hill), "	5 00
Nut, allkinds	4 00
No. 1 slack	3 06
Bituminous, by car loads to factories	5 35

Indianapolis, Ind.

August 4, 1874.

Specially reported by Messrs. H. McCOY & Co.

Trade improving slowly. Prices on some kinds of coal have advanced. We quote at wholesale on track.

Per ton of 2000 lb.

BITUMINOUS.

Best Block coal	$2 90	Indianna cannel	6 50
Best Highland	2 40	Hocking Valley	3 00
Block Nut	1 65	Youghiogheny	5 42
Highland "	1 65	Blossburg (smithing)	7 30
Block slack, per car load	15 00	Piedmont "	7 75
Peytona cannel per ton	8 50	Gas coke, per bushel	9½c

ANTHRACITE (Lackawanna).

Grate	$8 55	Chestnut	8 55
Egg	8 55	Stove	8 55

Retail, per bushel of 70 lb.

Block	14c.	Peytonia Cannel	32c.
Highland	12	Indiana "	28
Highland Nut	9	Youghiogheny	25
Block "	9	Blossburg	27
Slack	7	Piedmont	30

ANTHRACITE.

	per ton.		per ton.
Grate	$10 50	Stove	$10 50
Egg	10 50	Chestnut	10 50

Louisville, Ky.

Aug. 4, 1874.

Specially Reported by Messrs. BYRNE & SPEED.

We have no general changes to report; the price in the river is firm at 12 cents per bushel.

Our retail prices are as follows:

Pittsburgh, per load of 1900 lb	$3 50
Pomeroy	3 00
Buckeye Cannel	5 50
Peytona Cannel	6 00
Nut and Slack	2 75
Kentucky lump, per load	2 75
" nut, "	2 25
" Slack "	1 30
City-made Coke, per bushel	12c
Kentucky on cars at wholesale per bush.	8½c
Anthracite, per ton	$10 to $10 50

Milwaukee, Wis.

August 4, 1874.

Specially reported by Messrs. R. P. ELMORE & Co.

Trade is still dull; a few buyers visit us, but are careless about making purchases yet. Prices remain unchanged.

Retail prices per ton of 2000 lb.

Lehigh Lump	$10 00	Briar Hill, select	$8 50
Lehigh Prepared	10 50	Blossburgh	8 00
Lackawanna	9 50	Pittsburgh	7 50

New Orleans, La.

Aug. 1, 1874.

Specially reported by Messrs. P. & R. DEVERGES, Wholesale and Retail Dealers in Pittsburgh; Anthracite and Cannel coal.

We have no material change to notice. The stock afloat at Willow Grove Landing this day amounts to 205 boats and 13 barges and 1 hull. We have had no arrivals in July. Consumption during that month 26 boats and 1 barge.

We still quote

Pittsburgh coal, retail, per bbl	65c.
" wholesale	40c.
" per hhd	$6 00
" to steamboats, per box	50c.
" to manufacturers, per bbl	55c.@60
Anthracite, retail, per ton	$12 50
" wholesale per ton	$9 00
Spadra (Arkansas) coal, retail, per bbl	75c.
Mt. Carbon, wholesale, per bbl	45c.
" " retail per bbl	65c.

Pittsburgh, Pa.

Aug. 3, 1874.

THE FIRST JULY RUN OF COAL.

The rise in the rivers has enabled the coal men that had light draught barges loaded to forward the same to the lower markest. Others will follow provided the river don't fall too fast. There is a tow of 140,000 bushels of coke for St. Louis; for Cincinnati, 625,000 bushels coal, 42,000 bushels coke; for Ironton, 70,000 bushels coke; for Louisville, 60,000 bushels coke.

Reported by our Special Correspondent.

I learn that nearly, if not quite, all the miners on the P. C. & St. Louis R. R. have quit work demanding an advance in mining. The late flood seriously damaged the Setter Saw Mill Run Railroad, over which much of the coal for local trade in South Pittsburgh is transported. It will probably require several months to repair the damage.

Per ton of 2000 lb. and Bushel of 76 lb.

	per ton.		per ton
Youghiogheny coal	$2 15	Pittsburgh retail delivered per bushel	9½c@11¾c
" coke	2 75		
Connellsville coal	2 25	Anthracite all sizes	$7 00
" coke	3 25	" retail deliverd.	7 50
Pittsburgh coal	$2 00		

San Francisco.

From the *Commercial Herald*, July 23.

Imports of coal from January 1st to June 30th:

	Tons.		Tons.
Anthracite	2,506	Vancouver Island	29,429
Australian	37,000	Bellingham Bay	8,610
Coos Bay	27,665	Rocky Mountain	313
Cumberland	4,994	Seattle	1,465
English	1,705	Mt. Diablo (6 mos.)	93,193

Imports for the week include 1,314 tons from Liverpool per Sydney; from Victoria, V. I. 903 tons per Wellington; from Bellingham Bay, 1,400 tons per Germania; from Coos Bay, 477 tons per Empire, besides other parcels. The receipts from Bellingham Bay for six months of 1874, 8,610 tons, against 11 320 tons for a corresponding period of last year, being a decrease for six months of 2,710 tons. Last week we published full comparative details of imports for six months of the two years, showing a total decrease of imports and receipts from mines of 45,574 tons and an increase from others of 49,849 tons, or a net increase of over 5,000 tons for six months. The local Mt. Diablo mines show the largest increase, say 13,826 tons. Of foreign, Australian shows an increase of 15,642 tons, and Vancouver 12,260 tons increase; Coos Bay, 8,131 tons increase. The greatest falling off is the Seattle mines, say 11,482 tons. At this writing there is very little coal unsold; the last sale of Australian spot, $10. The California Mt. Diablo mines, Black Diamond and others, continue to produce largely of steam coals, finding ready sale at $6 25@ $8 25 per ton for coarse and fine—the latter screenings preferred by all local factories to the lump. Several cargoes of Australian have been sold to arrive upon terms withheld. The ship Francis Thorpe, from Newcastle, N. S. W., is at hand with 1,526 tons.

St. Louis, Mo.

Aug. 1, 1874.

Specially Reported by the COLLINSVILLE COAL AND MINING COMPANY.

ANTHRACITE

Per ton of 2000 lb.

	City delivery.
Lehigh Lump	$13 50
Lackawanna and Wilkesbarre	12 50
Semi Anthracite	9 50

BITUMINOUS.

Per ton of 2000 lb.

	E. St. Louis.	City delivery
Washington Indiana—smithing	$4 00	$4 87
O'Fallon, Ills	2 00	3 00
Collinsville and Belleville, Ills	1 75	2 75
Indiana Cannel	6 00	7 00
Missouri Cannel	....	5 00

Retail, 25c. per ton additional.

Toledo, Ohio.

Per ton of 2000 lb.

Scranton, all sizes	$7 50@$8 00	Briar Hill	5 85
Lehigh Lump	10 00	Bituminous	4 50@6 50
Blossburg	@ 8 00		

Halifax, N. S.

Aug. 3, 1874.

Reported by our Special Correspondent.

We have no alteration to advise you of in the prices of coal since last writing to you.

Prices per ton of 2240 lb. in gold.

Sydney (old mines)	$5 25	Little Glace Bay	4 50
Gowrie	4 50	Blockhouse	4 50
Victoria	4 50	Albion (at Railroad)	5 00

Montreal.

Aug. 3, 1874.

Reported by our Special Correspondent.

Per ton of 2,240 lb.

Scotch Steam	$6 25@6 50	Cape Breton Steam	$5@5 50
Pictou "	6 00@6 25	Newcastle Smiths,	8@8 25

Anthracite at retail, 2,000 lb., delivered:

Egg	$8 00	Nut	$8 00
Stove	8 50		

Toronto, Ont.

Aug. 3, 1874.

Reported by our Special Correspondent.

The following are the prices and terms of the Toronto Coal Exchange.

ANTHRACITE.

	per ton.		per ton.
Broken	$7 65	Chestnut	$7 65
Egg	7 65	Lehigh	9 00
Stove	8 15		

BITUMINOUS.

Blossburgh	7 50	Screenings	5 00
Briar Hill	7 00	Soft Nut	5 50

Freights on Bituminous Coals from the Mines to Tide-Water Shipping Ports.

From the Mines to Cumberland and State Line (say an average of 20 miles) the charge is 3 cents per ton of 2240 lb. per mile.

From State Line to Amboy, (346 miles) $4 00 per ton of 2000 lb. On coal shipped beyond that point there is a drawback of 50 cents per net ton.

From Cumberland to Baltimore, (178 miles) $2 58 per ton of 2240 lb., or $2 30 per net ton, and 4 cents per gross ton for use of cars.

From Cumberland to Georgetown, (152 miles) by canal, $1 76 per ton of 2240 lb. *To Alexandria, Va.*, 11 cents per ton more.

From the Mines to Piedmont, (from 4 to 10 miles) 5 cents per ton of 2240 lb. per mile on distances less than 5 miles, and 4 cents per ton per mile on distances not over 10 miles.

From Piedmont to Baltimore, (206 miles) $2 97 per ton of 2240 lb., or $2 65 on net ton.

From any point in the Kanawha Valley to the James River wharves below Richmond (say 350 miles) by C. and O. R. R., including terminal charges, per ton of 2000 lb., for Cannel coal, $5 35. Subject to rebate on large quantities.

Do., do., for Semi Cannel or Splint, $3 65.

From Hawks Nest to Richmond (say 300 miles) the freight on Bituminous or Splint is $3 25 per ton of 2000 lb; on Cannel it is $5 00.

From Irwin to W. Phila. (say 332 miles) per P. R. R. Penn. Westmoreland gas coal, per ton of 2000 lb.....$5 00
From Osceola to W. Phila. (say 248 miles) per T. & C. R.R. bituminous coal of 2000 lb..... 3 55
From Fairmount and Clarksburg to Baltimore (say 300 miles) via B. & O. R. R. including loading, per 2000 lb..... 5 20
On through coal after deducting drawback..... 4 15
From Richmond, Va., to New York, 392 miles per 2000 lb. 2 10
" " " Boston about 650 " "..... 3 00
" " " Philadelphia 292 miles "..... 1 75
From the Mines to Richmond v a James River and Kanawha Canal, 15 miles..... 25

Delaware and Raritan Canal.

Rates of the above, for August, may be found in our last issue.

Coal Freights from the Anthracite Mines to the Principal Markets.

We refer to our issue of July 11th any one desirous of consulting the above.

Freights.

To River, Sound, and Coastwise Points.
For the week ending August 7th, 1874.
Per ton of 2240 lb.

PORTS.	From Baltimore and Georgetown.	From Port Richmond, Philadelphia.	*From Elizabethport, Port Johnson, South Amboy, Hoboken and Weehawken
Augusta, Me.	2 50@2 75	....	....
Albany	2 30	....	....
Amesbury, Mass	....	....	....
Bangor, Me	1 65@1 85	2 00	1 50
Bath, Me	1 50@1 75	1 60	1 15
Baltimore	....	....	....
Boston, Mass	1 50@1 75	1 50	1 20
Bridgeport, Ct	1 45@ —	1 25	75
Bristol, Ct	....	1 25	1 00
Derby	....	1 50	1 00
Dighton	1 60	....	....
East Cambridge	....	1 50	††2 20
Fall River	1 50	1 25	1 00
Hackensack	....	....	....
Hartford	2 00	....	1 30
Hoboken	1 25	95	40
Hudson	1 75	....	....
Jersey City	1 25	95	40
Middletown	1 50	....	1 00
Mystic	....	....	1 00
Newark	1 60	....	....
New Bedford	1 65	1 25	1 00
Newburyport	1 45	1 65	1 35
New Haven	1 50	1 25	70
New London	1 50	1 40	1 00
Newport	....	1 40	1 00
New York	1 25@....	¶ 95	40
Norfolk, Va	90	90	....
Norwalk	....	1 50	75
Norwich	1 75	1 50	1 00
Pawtucket	2 15	1 50	††1 10
Philadelphia	1 25	....	....
Portland	1 50	1 50	1 00
Portsmouth, N. H.	1 65	1 50	1 30
Providence	1 50	1 25	1 00
Petersburg, Va	1 50	....	....
Richmond, Va	1 10	1 05	....
Rockport	....	2 70	....
Saco	....	3 00	1 30
Sag Harbor	1 25	....	1 00
Salem	1 80	1 50	1 00
Savannah, Ga	2 25	....	....
Stamford	....	1 40	75
Stonington	....	1 75	1 20
Taunton	....	....	1 50
Troy	2 30	....	....
Warren	....	....	1 00
Washington	....	....	....
Wareham	1 60	....	1 00
Wilmington, Del.	1 05	....	....

Freights from Rondout are either 20 cents over New York rates, or New York rates and towing up and down as vessels may elect.
¶ This is the rate alongside. Delivery on wharf costs 15c. additional.
†† Towing extra.
†‡ 3c. per ton per bridge extra.
* Freights from South Amboy are 5c. above these rates.

Towing.

Our issue of June 27th contains full information on the above.

REVIEW OF THE BRITISH COAL AND IRON TRADES.

From our exchanges, under date London, July 24, we learn there is still a moderate demand for both steam and house coal in the North of England, but there are few orders for gas and coking coal, and it is with difficulty that the pits are kept going. At present prices, business is unprofitable, and a reduction of miners' wages appears inevitable. Steam coals range from 13/ 6d.@18/ per ton; house coals, 14/ 6d @16/ 6d.; gas coals, 9/@13/. For coke there is scarcely any demand, good second-hand coke sells at 13/ per ton at the ovens, and best at 16/@17/. For pig iron there has been an improved inquiry, with an upward tendency in prices; No. 3 sells at 66/@67/ 6d. per ton, and forge at 58/@60/. Little is doing in manufactured iron, and prices tend downward. With pig iron at 65/, and puddling at 11/ 6d. per ton, it does not seem possible to manufacture rails at £8, and no buyers will give that for ordinary sections.

The labor difficulty in South Yorkshire and North Derbyshire, and the fact that so many collieries are standing, render it difficult to report upon the condition of the coal trade there. There has been a considerable falling off in the quantities sent to London, but the collieries that are working have as much as they can do, and, in some cases, double shafts have been put on. The iron trade has been well maintained.

The coal trade in the Manchester district is not so brisk, and there is keen competition and some underselling. In the Wigan district, too, business is very quiet; but a somewhat more favorable report reaches us from Tyldesley. Coals may be quoted in this district at 15/ 6d.@16/ for steam, 12/@14/ for house, common do. 11/, Slack 6/@7/, coke 15/ and 17/ to 25/ and 26/ at the collieries. The improvement in the iron trade of Lancashire has been maintained, and pig is decidedly firmer in price. No. 3 foundry irons range from 74/@76/ per ton delivered, for prompt delivery, somewhat less for future; forge iron 65/@70/. Manufactured iron exhibits little change. The forges and foundries are, for the most part, well employed.

A slight improvement has been apparent since Quarter-day in the demand for sheets, plates, and hoops, in South Staffordshire, but, on the whole, business must be reported quiet, the orders coming in being quite inadequate to furnish full or regular employment. The makers of branded iron are relatively better off than the inferior houses, yet few even of the former are making much more than half time. Orders are still being held back in the expectation of a fall, which has only been delayed so long by the firmness of coal during the miners' strike. Now, that the strike is ended, buyers hope that the increased output will soon compel the long-desired reduction in coal, and so enable iron producers to bring down their standard to the requisite level of £10 for marked bars. Neither iron nor coal masters, however, give much encouragement to these hopes. The colliery owners declare that the coal they are raising is little, if at all, in excess of consumption, and that they could not submit to any reduction without a further reduction of wages, which, under the terms of the recent arrangements, is impossible for three months, at the expiration of which time the winter demand will have come to the relief of the market. Meanwhile, prices are firm on the basis of 19s. for best forge coal. Iron ranges from £10 to £12 for common bars, and from £13 to £14 10/ for sheets. Pig iron is steady at £5 15/ for the best hot-blast native all-mine, and £3 to £3 5/ for cinder. There is little present movement in this department, but in anticipation of the early revival of manufactures, furnaces are being lighted in different parts of the district. The number of those in blast at present is forty-seven out of 153 erected.

The coal trade of South Wales is very quiet, compared with this time last year, but still a considerable business is being done. A reduction of wages, however, is necessary, and steps in that direction have been taken. The iron trade is dull, the works are far from being fully employed, and the full complement of hands is not at work.

Scotland.—The ironmongers met in Glasgow on the 22d. The position of affairs in the mining trade was discussed, and the action of the men in the various districts considered. It was not thought necessary to take any new steps, but simply that the masters should continue to act as they have been doing for the last few weeks, and it was agreed not to put any more furnaces in blast at present. The end of the prolonged dispute has been reached. The coal masters of the Glasgow district have made a final reduction in the price of coal, and have again reduced miners' wages 1/ to 2/; they now stand at 6/ per day.

IRON MARKET REVIEW.

New York.

Aug 7, 1874.

The "slightly better feeling" which we reported as prevailing last week in the iron market, has confined itself to "feeling," and has not resulted in transactions of any note; in fact, some dealers can see no improvement up to the present time, though others note an improvement in tone, if not in transactions. The failure of Messrs. Holmes and Lisaberger, metal brokers, has thrown a shadow even over the iron market, for, though nominally a copper house, they have recently dealt quite largely in iron, buying on time, and hypothecating the metal to meet other engagements, till, in the confusion still unravelled in their accounts, no one appears to know how seriously the iron market may be affected. We learn of one highly respectable iron house that has been carried down in the crash, having endorsed largely for Messrs. Holmes & Lissberger, and there are rumors of other houses having suffered more or less from the same cause. Till the facts are fully known the possibility of even small lots of iron being forced on so weak a market has a very disquieting effect, and it has somewhat overcast what appeared last week as a brighter sky. This shadow is, however, only temporary, and, doubtless, in the course of the next three or four weeks we shall experience a little relief from the monotonous dullness we have had to record for months past.

The Coal and Iron Trades Review, one of the most reliable of the English papers, tells us that "the reports from the United States are unanimous in stating that the iron trade is better than it has been for several months past," and that "consumers are eager to secure their supplies before the advance, which is inevitable, sets in." And again the same journal says: "We have frequently expressed an opinion that American iron masters were making the worst of things for political purposes—recent reports confirm this view." We commend to our able contemporary a more careful study of our reports which will disabuse his mind on several of these points. It is certainly true that generally throughout the country there is a better feeling in the iron trade, but the feeling is induced rather by inquiry than by sales, and where sales are made prices are no higher than they have nominally been for some time past. The Thomas Company have now four furnaces in blast, and claim to be selling their product and carrying very light stocks.

American Pig.—There have been but few transactions during the week from the causes above mentioned, and prices are unchanged. We are reported sales of 400 tons No. 1 Lehigh @$32,00, and 400 tons No. 2 @ $29,00, by the Thomas Company, and a lot of 75 tons No. 1 on private terms. We quote as last week. No. 2, $28,00@30,00; Forge, $25.00@28,00. No. 1, $30,00@32.00; Probably the most encouraging feature in the market is that the purchases that are made are for immediate delivery, indicating that consumers are without stocks, and that whatever improvement there may be in consumption must at once be felt throughout the trade.

Scotch Pig.—The advance in Scotland, which we noted in our cable news last week has been maintained there, but it has produced very little effect on this market where quotations remain unchanged while stocks are very low and but very little coming here. If there were any demand for this brand of iron prices would at once advance considerably; consumers who need it during the next three or four weeks, will do well to secure their supplies at once. We quote sales of 300 tons Eglinton and 100 tons Carnbroe on private terms; and we quote Eglinton, $33 50@34 00; Carnbroe, $34 00; Glengarnock, $32 00 There is no Coltness in the market, and the above quotations are held pretty firm.

Messrs. BIGELOW & JOHNSTON report the imports for the month of July as 1,513 tons, and since Jan. 1, 22,703 tons.

Our advices of cable give Coltness, /118; Summerlee, /113; Glengarnock, /103; Carnbroe, /100; Eglinton, /93.

Iron Rails.—There have been no transactions in American. We quote sales of 1000 tons foreign @$50 00 gold, and quote American nominally $56 00@$60 00, currency, at the mills. From Messrs. BIGELOW & JOHNSTON'S circular for July we quote: "In *Foreign*, the transactions have been for lots in bond and some considerable sales have taken place at low figures. The published reports, however, greatly exaggerate the quantity actually disposed of in this way, and the increased prices asked by holders have already had the effect of checking this exceptional business. For *American*, there is a better enquiry, but the business consummated by no means meets the general expectation and needs of our mills. Prices are a trifle firmer."

Bessemer Rails.—There are no transactions to report. In their absence we quote American at the mills, nominally $97 50; foreign, $90 00, gold.

Old Rails.—There is nothing doing in this line. They can be quoted nominally, $34 00@$36 00. Receipts at this point for July, 361 tons; since Jan 1, 1,520 tons.

Scrap Iron.—We quote nominally: No. 1, wrought, $34 00 @$36 00; cast, $22 00@$28 00, and no business being done.

Spiegeleisen.—In the absence of business we quote nominally @$55 00, gold; No. 1, foreign, is quoted at £6. f. o. b. at Rotterdam. Best English makes £7@£7 /10, f. o. b., in English port.

Cleveland.

Aug. 4, 1874.

Specially reported by Messrs. C. E. BINGHAM & Co., dealers in pig iron and iron ore.

Our pig iron market is very unsettled. Present quotations are as follows:

No. 1, Anthracite Foundry	$33 00@34 00	4 mos
No. 2, " "	31 00@32 00	4 mos
No. 1, Bituminous "	33 00@34 00	4 mos
No. 2, " "	31 00@32 00	4 mos
No. 1, " Grey Forge	27 00@28 00	4 mos
No. 2, Close Grey	26 00@27 00	4 mos
No. 1, Massilon Black Band	35 50@36 00	4 mos
No. B-1 " "	33 50@35 00	4 mos
No. 2 " "	32 00@32 50	4 mos
No. 1, Lake Superior Charcoal	37 00@38 00	4 mos
No. 2, " "	35 50@36 50	4 mos
No. 3, " "	38 00@39 00	4 mos
Nos 4, 5. 6, " "	39 00@42 00	4 mos
American Scotch	33 00@34 00	4 mos

Chicago

Aug. 4, 1874.

Specially reported by Messrs. ROGERS & Co., dealers in Scotch and American pig iron.

Below we quote our market prices for pig iron and rails.

No. 1 Coltness	$46 00@	....
No. 1 Gartsherrie	45 00@	....
No. 1 Summerlee	44 00@	....
No. 1 Glengarnock	42 00@	....
No. 1 Eglinton	38 00@	....
Warner's "American Scotch"	38 00@	....
Massilon No. 1 Foundry	37 00@	....
No. 1 Grand Tower Mo. ores (Bituminous)	35 00@	....
No. 2, " " "	32 00@	....
No. 1 Mill	30 00@	....
Union "A" 1 (Anthracite)	34 00@	....
Union "B" 1 (Anthracite)	32 00@	....

No. 1 Lake Superior (charcoal)	38	00@	....
No. 2 Lake Superior "	36	00@	....
No. 3 Lake Superior "	42	00@	....
No. 4 Lake Superior "	45	00@	....
Bessemer Steel Rails	95	00@97	50
New Iron Rails	58	00@60	00
Old Rails	32	50@	....

Cincinnati.

August 4. 1874.

Specially reported by Messrs. Traber & Aubery, commission merchants for the sale of pig iron, blooms, ore, etc.

We have no important change to note in our Pig Iron Market. The demand is less active. Prices are without change and firm at our quotations :

CHARCOAL.

Hanging Rock, No. 1, Foundry	$33	00@34	00—4 mos
" No. 2, "	31	00@32	00—4 mos
" Mill	29	00@30	00—4 mos
Tennessee No 1, Foundry	30	00@32	00—4 mos
Tennessee. No. 2 "	29	00@30	00—4 mos
" Mill	27	00@28	00—4 mos
Missouri, No. 1, Foundry	34	00@35	00—4 mos

STONE COAL.

Ohio No. 1, Foundry	30	00@32	00—4 mos
" No. 2, "	29	00@30	00—4 mos
Ohio Mill	27	00@28	00—4 mos
Missouri, No. 1, Foundry	31	00@32	00—4 mos
" No. 2, "	30	00@31	00—4 mos
" Mill	27	00@28	00—4 mos

CAR-WHEEL.

Hanging Rock, C. B	50	00@55	00—4 mos
Tennessee "	45	00@48	00—4 mos
Missouri "	45	00@48	00—4 mos
Alabama "	45	00@48	00—4 mos

BLOOMS.

Charcoal	85	00@ 95	00—cash

SCRAP IRON.

Cast	80@	90	—cash
Wrought	1 25@	1 40	—cash
Rails	65@	68	—cash

Indianapolis, Ind.

Aug. 3, 1874.

Specially reported by Nelson Kingman, broker and dealer in pig iron, etc.

There is no perceptible change in the pig iron market. A slight depression in boiler plate iron is noticed. Prices firm at quotations as follows :

New Rails at mill	$64	00@66	00
Old Rails "	31	00@32	00
Hanging Rock Charcoal Pig No. 1 foundry	35	00@36	00—4 mos
" " " " 2 "	32	00@34	00—4 mos
" " " " Mill	29	00@32	00—4 mos

STONE COAL.

Indiana No. 1 Foundry pig Planet furn'e.	32	00@34	00—4 mos
" 2 " " "	31	00@32	00—4 mos
" 1 Forge " "	29	00@	....—4 mos
" 3 " " "	27	00@	....—4 mos
Ohio No. 1 Foundry pig	34	50@36	00—4 mos
" 2 "	32	50@34	00—4 mos
" 1 mill	29	00@30	00—4 mos
Merchant Bar, card rates	52	00@54	00—3 mos
1st quality C. H. No. 1 Boiler Plates, per lb	5¾@6	c.	—3 mos
1st " Com Sheet, for No. 24, W.G. "	4¾c.		—3 mos
1st " Charcoal Sheet " " "	6	c.	—3 mos
Best Bloom Galvanized Sheet, discount 20 per cent			—cash
2d quality " " " 30 "			—cash

f. o. b in Indianapolis.

Louisville.

Aug. 3, 1874.

Specially reported by George H. Hull, Esq.

Prices are steady, but the market is dull, and sales are confined to small lots for immediate use.

The usual time, 4 mos., is allowed on the quotations below :

HOT BLAST—CHARCOAL.

No. 1 foundry, from Hanging Rock ores	$33	00@35	00
No. 2 " " "	30	00@32	00
No. 1, forge, " "	27	00@28	00
No. 1, foundry, " Tennessee "	32	00@34	00
No. 2 " " "	28	00@30	00
No. 1, forge, " " "	26	00@27	00
No. 1, foundry, " Alabama "	32	00@34	00
No. 1 " " Iron Mountain "	34	00@36	00

HOT BLAST—STONECOAL.

No. 1, foundry, from Missouri ores	33	00@34	00
No. 2, " " "	28	00@30	00
No. 1, forge " "	26	00@27	00

COLD BLAST—CHARCOAL.

Car Wheel from Hanging Rock ores	50	00@54	00
" " Tennessee "	48	00@50	00
" " Alabama "	50	00@52	00
" " Georgia "	50	00@52	00
" " Missouri "	48	00@50	00
" " Kentucky "	50	00@52	00

Milwaukee, Wis.

Aug. 3, 1874.

Specially reported by Messrs. R. P. Elmore & Co.

The iron trade at this point is dull.

The prices per ton of 2,240 lb. are :

Scotch ranges	$40	00 to	$45 00
No. 1, Lake Superior Charcoal	36	00 to	38 00
" 2, " " "	34	00 to	36 00
" 1, " " Anthracite	35	00 to	36 00
" 2, " " "	33	00	

San Francisco.

From the *Commercial Herald*, July 23.

The introduction of American cast steel on this coast has been the means of breaking the prices not a little. The stock of pig iron in first hands is light, and, in the absence of reported sales, we quote Scotch $38@$40 ; Oregan, $45. Several parcels of Scotch and English pig iron, to arrive, have been sold upon terms withheld.

Philadelphia, Pa.

August 6, 1874.

Reported by our special correspondent.

The great majority of the iron men in this city, representing, as they do, at least half of the iron interests of the State, take but little stock in the rosy accounts of increased activity in the trade. They know by daily experience that it is impossible to make sales of the large accumulated stocks of pig iron that are seeking a market. As I have heretofore stated, it is not so much the price as the inability to sell at all ; the quotations are merely nominal, No. 1 Foundry is held at $31, but less than $30 would be gladly accepted for any considerable lot from a good buyer. There is more of a market for foundry iron than for others. Some sales have been made during the past week, but on "private terms," and at such low figures that the sellers will and the buyers are pledged, not to divulge them. The attention of the iron men of Pennsylvania is earnestly directed to the necessity of lessening the cost of production ; they are realizing the fact that they must be able to compete with England in the markets of the world for iron. either in the raw state or in the advanced state of manufacture. The stagnation that now overshadows this great interest must, in the very nature of the case, be of slow recovery.

For general purposes there are indications of an improvement in the demand for iron, but the same rule obtains here as in pig iron, the necessity of reduced cost, so that manufacturers may be able to seek a market elsewhere than in the United States. I hope by next week to be able to furnish you with a statement of the number of furnaces and rolling mills that have "started up" in Eastern Pennsylvania since the first of July.

Pittsburgh.

Aug 4, 1874.

Specially reported by A. H. Childs, Esq., commission merchant for the sale of pig iron, blooms, ore, &c. :

The price of pig iron cannot be said to be quotably higher than for two or three weeks past, yet the feeling is undoubtedly firmer, and purchases can be made only at full market rates.

Quotations are :

No. 1 Foundry, anthracite or bituminous	$30	00@31	00—4 mos
No. 2. " " "	28	00@29	00—4 mos
Gray forge " "	27	00	....—4 mos
White and mottled " "	25	00@26	00—4 mos

The following is from the *Commercial* of Aug 1 :

The pig iron market continues substantially the same as at date of our last report. Although we cannot report a large amount of sales this week, prices have been fully sustained.

Our advices from Lake Superior indicate that mining operations have not yet been resumed.

There seems to be a good demand for manufactured iron at present rates, an indication, we hope, of a better state of feeling, and an early opening of the fall trade.

We are reported the following sales :

BITUMINOUS COAL SMELTED FROM LAKE SUPERIOR ORES.

150 tons mottled neutral	$25	00—4 mos	
100 " gray forge neutral	26	50—4 mos	
100 " No. 1 foundry	29	00—4 mos	
100 " close and mixed cold short	25	00— 4 mos	
80 " No. 1 foundry	29	00—4 mos	
75 " white neutral	private terms		
60 " No. 1 foundry	28	00—4 mos	
50 " white and mottled	25	00—4 mos	
50 " close gray and mottled	26	00—4 mos	
50 " No. 2 foundry	27	50—4 mos	
30 " No. 1 foundry	29	00—4 mos	
20 " gray forge neutral	27	00—4 mos	
10 " No. 1 foundry	29	00—cash.	
10 " "	30	00—4 mos	

ANTHRACITE.

600 tons Chickies Foundry at furnace	$30	00—4 mos	
30 " No. 2 foundry at furnace	28	00—cash.	

CONNELLSVILLE COKE.

200 tons gray forge	$27	00—4 mos	

COKE.

50 tons foundry	$27	00—cash.	

EASTERN CHARCOAL.

10 tons cold blast	$47	00—4 mos	

LAKE SUPERIOR ORE.

4,000 tons R. S. delivered at Cleveland	$8	75—4 mos	

METALS.

New York, Aug. 7, 1874.

Gold Coin.—During the week past gold has ranged from 109¾ to 110 and closed yesterday at 109¾.

Bullion.—Fine silver bar is quoted at $1 27@$1 28¼, gold per ounce, and fine gold bar at par ($20 67, gold, per ounce.)

Copper.—The market is very unsettled, and the dealers are nearly all active "bears" or "bulls," and consequently color their reports to suit their side of the question.

The failure of Messrs. Holmes & Lissberger has caused great excitement throughout the trade, and were it not, that the greater part of their copper is held by banks that are unwilling to force the sales, there is no doubt it would before this have gone down to very low figures. The banks are said to have advanced 18 and 20 cents per lb. on the copper, and are endeavoring to save themselves. From the general tone of the dealers, we judge, several of them have been retained to dispose of the lots in a quiet way, and those that are not so acting are waiting for developments and are unwilling to express any opinion on the probable course of the market, lest it might produce an undesirable result. We have had reports of heavy sales, 1,000,000 lb., for export by one of the German steamers, price said to be about 19c. and 1,500,000 lb. sold in this market at 19¼c. We have been unable to confirm these reports, which may or may not be true. Those who are in a position to give the facts are unwilling to do so. We are also reported some small sales aggregating about 100,000 lb. at 19c.@20c.

A number of dealers and banks are largely interested in maintaining prices, in order to save as much as possible from the wreck. Were it not for this, it is impossible to say where the downward tendency in price would stop, for few appear disposed to favor copper as an investment at present, even at 14 or 15 cent

The liabilities of Messrs. H. & L. have not yet been made public. It is said their matters are greatly "mixed" ; the figures are still placed among the millions, while the prospects for the creditors appear very gloomy indeed.

Under date of July 24th, Messrs. Vivian, Younger & Bond, of London, state :

"At the close of our last report on the 17th inst., holders showed more disposition to sell foreign sorts at the decline, and eventually 1,000 tons changed hands down to £76 for Chili bars, at which point the market rallied, and £77 to £77 10/ has since been paid for good ordinary brands, closing with more inquiry at this figure.

"In Australian the business has been trifling at £87 to £88 for Wallaroo, and £86 to £86 10/ for Burra. Ingots of various brands selling at from £84 to £85 10/, as in quality. Manufactured only in moderate request at £90 to £91 for strong sheets, and some Braziers for India £89. Tough and best selected, rather irregular at about £83 10/, and £84 10/ to £85 respectively. As regards the American supplies of Lake Superior, it is understood that about 1000 tons are being promptly shipped to this side. No further quantities have since been offered for sale in addition to what was originally treated for, and it is generally supposed that the bulk of what was sold (2,500 tons) will go into consumption. At the Swansea Ticketing on Tuesday last, 983 tons ores of 23½ per cent. average produce realized 15/ per unit, and of 33¼ per cent. 15/ 2d."

Tin.—The market is fairly active, though there is nothing beyond a jobbing trade to report. Prices are as follows : Straits, 22c.@23c. ; English Refined, 21c.@22c. ; Banca, 25½c.

Messrs. James & Shakespeare, of London, advise, under date of July 24th, as follows :

"English remains unchanged, but demand is slack.

"Foreign sorts are neglected, and values have further receded about 2/ per cwt., the market closing yesterday with sellers at our list of prices.

"At the Ticketing of Ore on 21st inst. 81 tons were withdrawn, the remainder selling as follows :

Australian,	12	tons fine	£52¾ @ £55½	per ton.
"	16	" good	£49½	"
Peruvian,	5	" good	£49¼	"
"	4	" inferior	£17½	"

For the sale on the 4th proximo 102 tons Australian have been declared."

Lead.—The Government sale of lead, which will be announced on the 10th inst, has unsettled this market, and nothing is doing beyond small jobbing lots for immediate use. We quote : Domestic, $5 75@$5 80, gold ; foreign, 6¼, gold. Stocks light all round.

Spelter.—Market is dull at the following prices : Domestic. 6¾c.@7c. There is little or no foreign in the market. It is nominally quoted 6½c.@6¾c., gold. From London we are advised : Prices of foreign are quoted irregularly, at from £22 to £22 10/ for special Silesian ; English at about £22 10/. The demand does not improve.

Zinc.—There have been some sales during the week though the market is inactive. Prices may be quoted for sheets at 8c@8¼c., gold.

Antimony.—Light demand and prices unchanged at 11½@11 3-4, gold.

Manganese.—There is a brisk demand for all kinds used by steel and glass manufacturers and linseed oil boilers and prices range advancing. N. B. Manganite 80 per cent—5c ; Ga. Soft Manganite, 4½c ; Va. Psilomelane, 3½c; Saxony Pyrolusite 7c.

Quicksilver.—Our English cable advices state that on the 30th the price was advanced to £21 /10@£22 per flask. In the New York market the demand is fully up to the supply, and the price is $1 50 per lb.

San Francisco Stock Market.

BY TELEGRAPH.

New York, August 6, 1874.

Our report from the San Francisco Stock Board is dated the 4th inst. Compared with our last report the list is weaker.

The report is as follows :

Savage	55	Imperial	8
Crown Point	68	Raymond & Ely	10
Yellow Jacket	70	Meadow Valley	5
Kentuck	13	Eureka V. G. Bid asked.	—
Chollar Potosi	51	Ophir	—
Gould & Curry	18	Hale & Norcross	—
Belcher	66		

Boston Stock Market.

Boston, August 6, 1874.

We give below the prices bid for a few of the prominent Copper Stocks at the opening of the Boston Stock Board. As compared with quotations in our last, the market is materially weaker, a result due undoubtedly to the recent failure of Messrs. Holmes and Lissberger, causing an unusual decline of the market here.

Allouez	8¾	Pewabic	6½
Calumet and Hecla Co.*	119	Phœnix	14
Copper Falls	10	Quincy	29½
Central	20	Ridge	4
Franklin	4½	Rockland	1¼
Mesnard	—	St. Clair	—
National	2¾	Star	—
Petherick	1⅛		

* Ex-Dividend.

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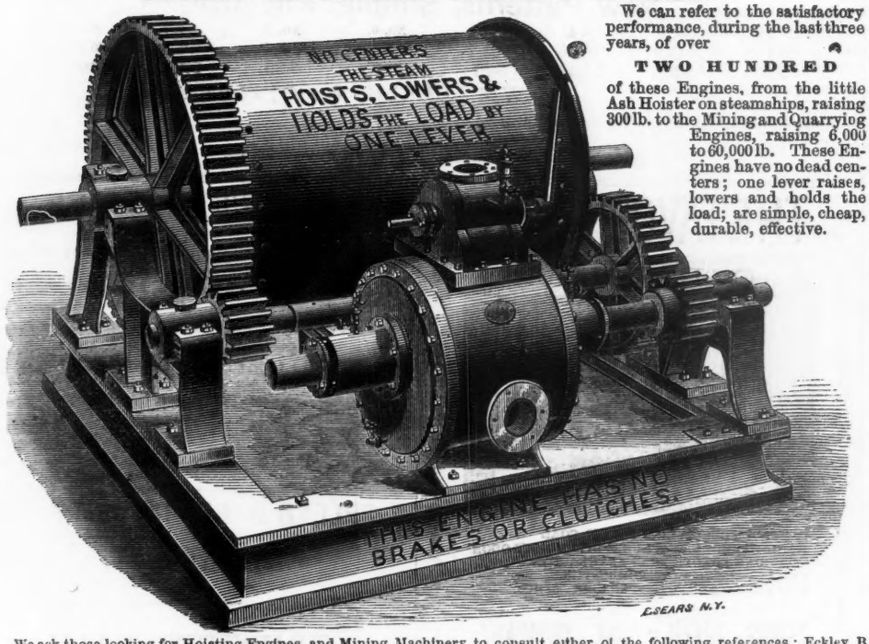

We can refer to the satisfactory performance, during the last three years, of over

TWO HUNDRED

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Sulphur practically	none.	Sulphur practically	none.
Phosphorus	.038	Calcium	.140
Alumina	.28	Metallic iron	94.838
Lime	.14		100.000
Undetermined matter and loss	.592		
	100.000		

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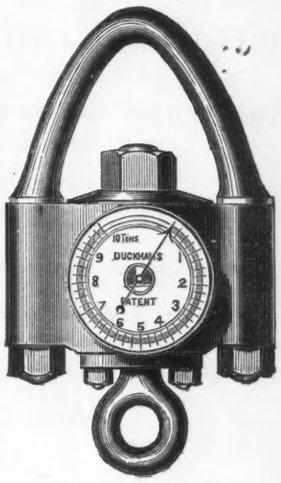

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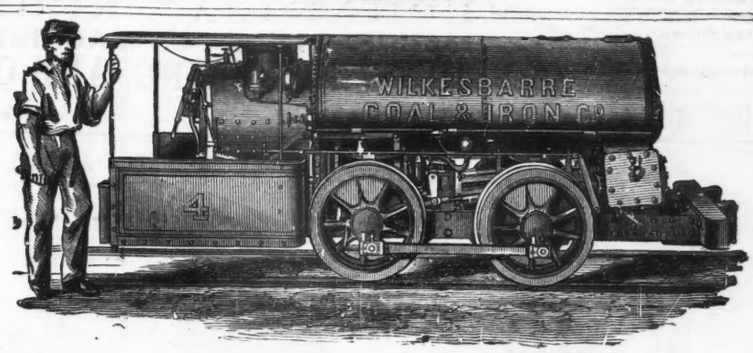

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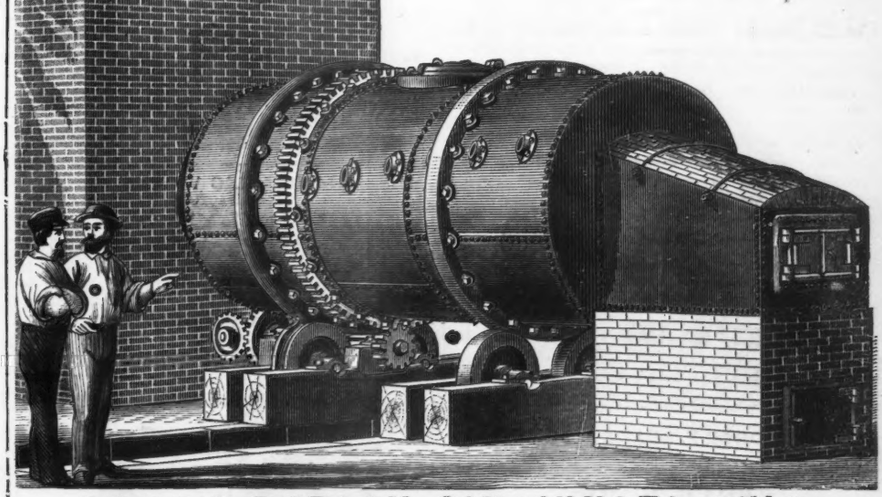

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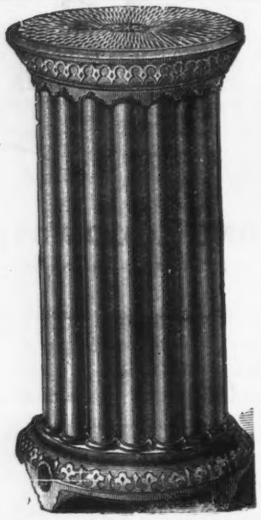

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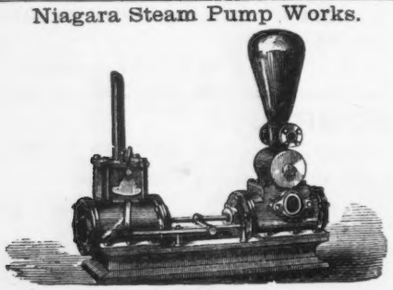

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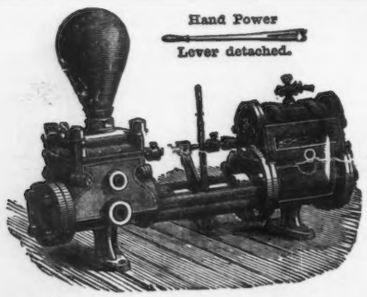

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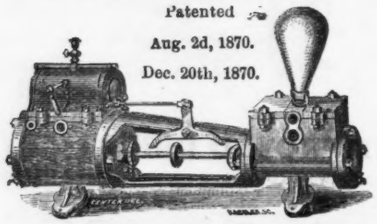

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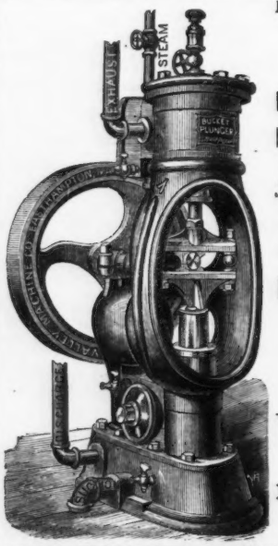

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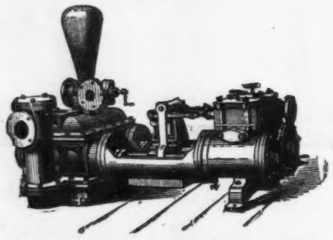

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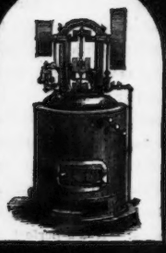

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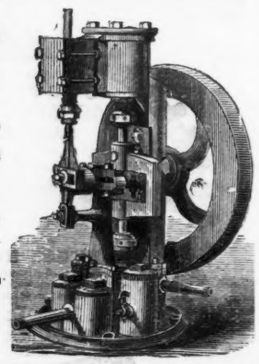

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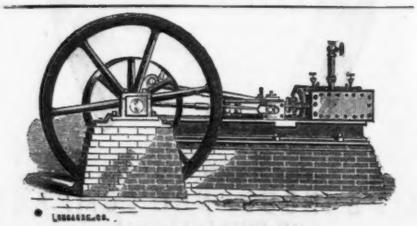

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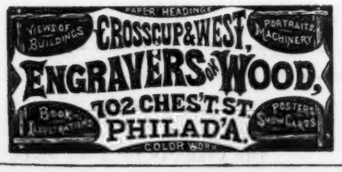

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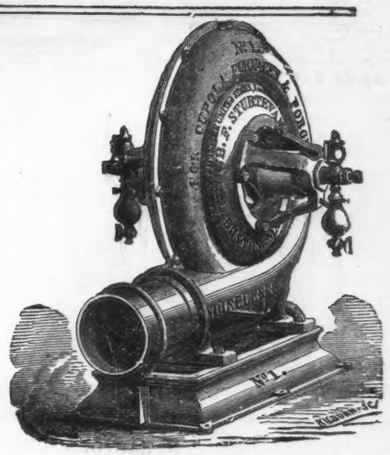

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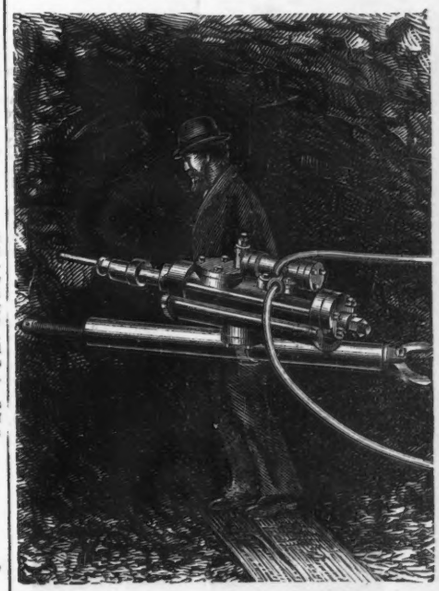

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